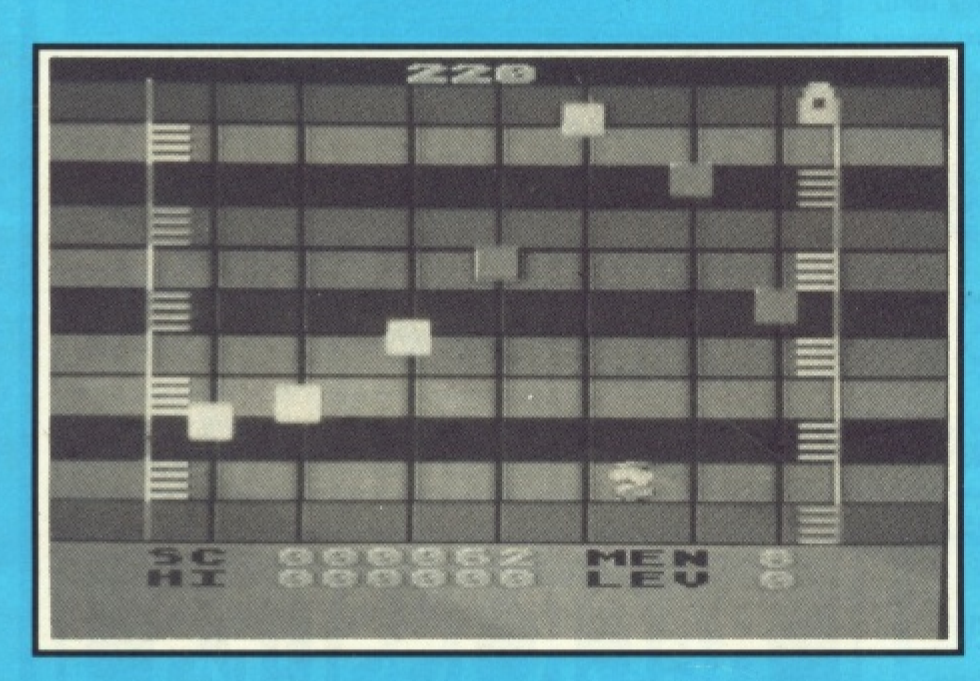
Page 6 Publishing's

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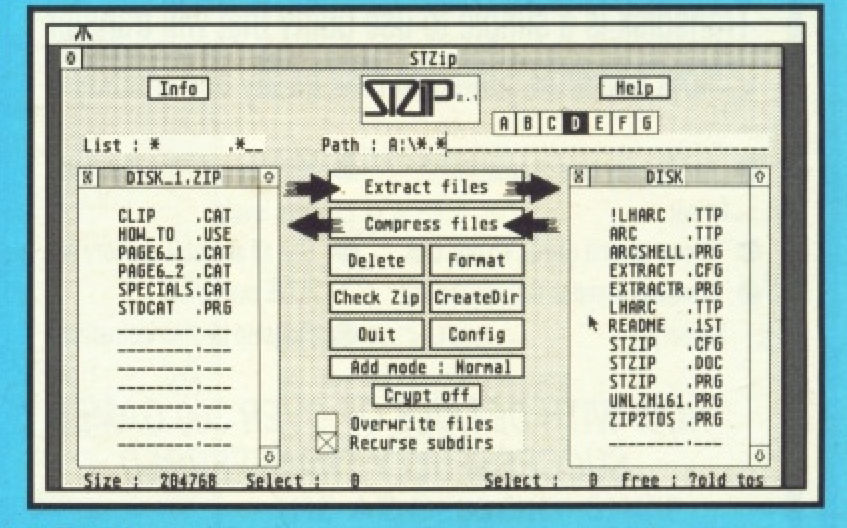
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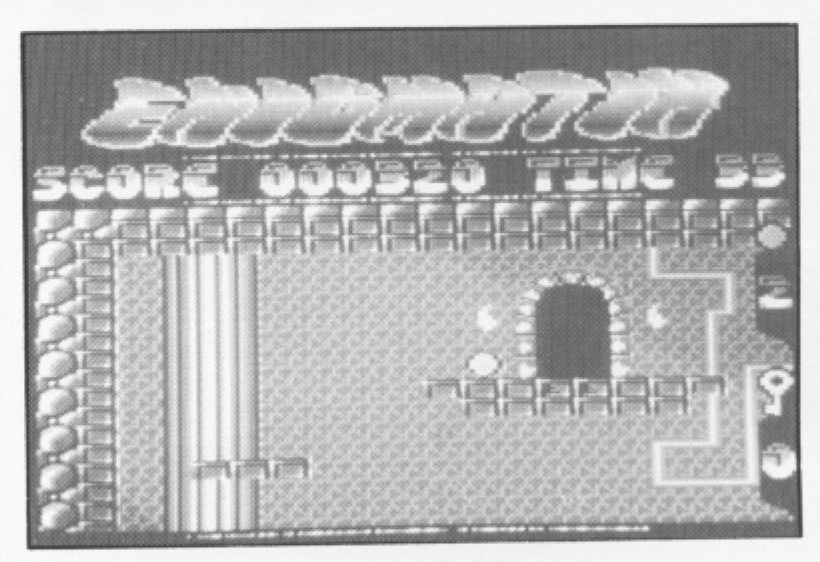
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'The magazine for the Dedicated Atari User'

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Issue 67 - April/May 1994



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PAGE 6 welcomes and encourages its readers to submit, articles, programs and reviews for publication. Programs must be submitted on disk or cassette, articles should wherever possible be submitted as text files on disk. We seek to encourage your participation and do not have strict rules for submissions. If something interests you, write a program or article and submit it!

The next issue of NEW ATARI USER will be on sale 31st May
Editorial copy date is 18th April

PROGRAMS

FEATURES

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ST FILE

DEPARTMENTS

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Issue 67
April/May 1994

'The Magazine for the Dedicated Atari User'

ISSN No. 0958-7705

THE CREDITS

All of the usual stuff is on page 3 but here are the people who made this issue possible.

Les Ellingham sort of had the flu, or sleeping sickness, for this issue but managed to stay awake just long enough to ....

Sandy is going to be a lot busier from now on (see next item) so make allowances! She will be doing all of the mail order, copying, order taking and loads more that needs to be done whilst praying for warmer weather (its blooming freezing in the office!)

As so we say goodbye to **Paulette** who has found herself a full time job but can't find the time to spend all the money that she's now earning! A heartfelt thanks to Paulette for sticking with us for so long and for doing everything we could have asked. If only times were better, we would all still be together but she's promised to keep in touch (that's what Stacy said!)

Talking of **Stacy** she has promised to come and help us send this issue out but that's in a couple of weeks time so we'll see what happens!

The Regular Contributors, who provide the backbone of the magazine and can generally be relied upon to come up with good articles and reviews, are ....

John S Davison	**Stuart Murray**
Paul Rixon	**Ian Finlayson**
Allan J. Palmer	**Nic Bavington**
Mark Stinson	**The Tipster**

All other contributors for this issue are individually credited alongside their articles or programs. Thanks to everybody for sharing their enthusiasm with other Atari users.

Main music inspiration this time has been Mary Chapin-Carpenter who I mentioned last time but didn't have room to expand upon. Her two albums (she's actually made four) have been on almost non-stop for about three months. I was quite dismayed to find that she had been voted Country Music Female Singer of the Year in 1993, does that mean I now have to buy Tammy Wynette and Dolly Parton! I can't think why she is considered a country singer, but if people need pigeon holes, I guess there's nowhere else to put her. Only one new CD in the last two months which I had to snap up before it disappeared and that's by Robin Williamson and John Renbourn entitled WHEEL OF FORTUNE. Not at all bad, especially if you have a Robin Williamson obsession! That's about it. I'm off now to record a few of these to listen to in the Easter holidays!

The next issue of NEW ATARI USER could feature YOUR article or program, so SEND IT IN NOW!

PAGE 6 shows just what you can do with your Atari. NEW ATARI USER has always been created entirely with Atari equipment, initially on the XL but more lately with a Mega ST and other stuff, who needs PC's or Macs! With the exception of the final output on a Linotron and the use of an in-house repro camera for the photos and listings everything is done on the ST. Hardware includes a Mega ST2 (upgraded to 4Mb), SM125 Monitor, Supra 30Mb Hard Disk, an Atari Laser Printer, Citizen 124D printer, Philips CM8833 monitor, 130XE, XF551 disk drive, 810 disk drive, 850 interface, NEC 8023 printer. Principal software used is Protext and Fleet Street Publisher 3.0. Other software includes Kermit, TariTalk, Turbo Basic and various custom written programs on the XL/XE. Articles and programs submitted on XL/XE disks are subjected to various custom written programs before being transferred across to the ST via TARITALK. All major editing is done with Protext and pages are laid out with Fleet Street Publisher. A disk with the finished pages as Postscript files is sent to a typesetting bureau to be output on a Linotron and, hey presto, finished pages are sent back exactly as you see them. It really does work! All that is left is to drop in the listings and photos.
Well, it's not quite as easy as that but you get the idea!

Editorial

A MIXED BAG

This issue we'll have a real mixed bag editorial as several unrelated topics come to mind. The first is how quickly the ST seems to have gone the way of the Atari Classic. Or has it?

Did you know that Atari haven't actually been selling the ST in the UK for about six months? We had a lot of calls at the end of last year from folks asking where they could buy an ST as they could not find one in their local shops. Silica Shop sold out long before Christmas and it turns out that Atari had not been importing any machines into the UK for several months. In February they changed their minds and began importing machines from the USA, but how many sales had they lost in the meantime? Atari's recent efforts have been in promoting the Falcon or, rather, just hoping that someone would buy one. Remember the Falcon? It was Atari's latest best computer in the world, but how many Falcon owners do you know? The Falcon looks as if it will be as popular as the .... umm ... the ... Well, in a couple of years time you won't remember the Falcon either!

If you check the Mailbag column this issue you will find a letter from a French Atari fanatic who says that the shop where he worked stopped selling Atari software when the machines were no longer being sold and this is what is now happening to the ST. All of the big stores have dropped ST software and very few of the major publishers are releasing ST titles. Whose fault is it? Well, it was Atari who stopped importing the machines, so you tell me. Atari seem to have found themselves a unique niche. The only thing they can do well is fail to sell the amazing computers they produce. Ah well, there are rumours that they are going to buy EuroDisney, so we'll see what happens then!

LACK OF INTEREST?

The other topic touched upon by our French friend is the store where he worked complaining that they weren't selling Atari software when, all the time, they failed to mention that they sold Atari software in their adverts. Well, you might remember in the last issue I asked companies that were going to the upcoming SAMS show in April to let us know what they will exhibiting. Well, only one exhibitor bothered to get in touch and that was Dean Garraghty, all the others we had to chase. I am amazed that, of all the folks who are supporting the Atari, only one had enough presence of mind to realise that you can't expect customers to come and see you unless you let them know you'll be there. Maybe it's that old Atari attitude that has rubbed off?

NEW USERS START HERE

We've had quite a few new readers in recent months that have had problems in typing in the listings and I realised that we had fallen into the old trap of assuming that all Atari users knew everything about their computer. We used to publish the TYPO listing every issue but dropped it many years ago on the assumption that everyone would have a copy. That's not the case of course, so for the benefit of those who have been mystified by those strange two letter codes that the Atari won't accept, we are publishing the TYPO 3 listing again this issue. If you have never used TYPO before, get it up and running, it's a real miracle of a program.

A DEAD LASER

One of the real problems of sticking with a minority interest computer is when things go wrong. Half way through this issue there was a big bang from the direction of my SLM804 laser printer and a distinct lack of the annoying whirr of the fan. It was dead! This means that there may well be one or two mistakes in this issue since proofing the mag on a dot matrix is such a slow process that I would have to start work on Issue 68! It also means that I have to travel half way across the country to find someone who is willing (or able) to repair it. If I had bought an Apple Mac for desk top publishing I could have taken it down the road. And to think that a few years ago Atari tried to push the ST as an ideal DTP system. It would make you laugh, if you weren't crying so much.

Les Ellingham

Mailbag

Keep 'em coming!

Although this will be appearing in the April/May 1994 issue, this will be my first Mailbag column compiled in 1994. I'm pleased to see an interesting and varied selection of letters again - please keep them coming!

Allan J Palmer is sitting in the hot seat at the sorting office awaiting your letters on all things Atari - get writing!

Write to MAILBAG at Page 6 Publishing P.O. Box 54 Stafford ST16 1DR

THANKS

Mark Watson of Bridlington asks for thanks to be passed on to Daniel Baverstock for his correspondence, and to Andrew Lakin-Hall for helping to build a robot before going on to several other subjects.

AMS

Mark does not regret attending AMS 7 and sends these comments:

"The amount of Atari support was extremely good and there were all sorts of bargains - Zaxxon at 25p, Rescue on Fractalus ROM at £2.50, 810 drives for £15! Among the new items on sale were Quick - an excellent language that I recommend, Brundles - a straight copy of Lemmings albeit very jerky, and a number of hardware kits including Micro-Discount's Stereo Upgrade. Quite a lot of overseas visitors were there. ANG had some excellent software and were advertising a new disk magazine. Ke-Soft were also in attendance, and on the DGS stand was Harald Schonfeld (author of Quick). DGS had their reformatted Atari News-Paper (no longer a disk). Despite the show being so good, the number of people attending was quite small. Hopefully more people will attend the next show."

MUSIC CONSTRUCTION SET

Another question from Mark is:

"Does anyone know how to print to an Epson compatible printer from Electronic Arts' Music Construction Set? I bought this disk unboxed from AMS without instructions and can't work out the printer codes."

USER GROUPS?

Mark Watson has also been thinking about starting up a User Group for the Atari Classic in the Yorkshire area. If anyone has any advice or wants to be part of the group, please contact Mark at 122 St. James Road, Bridlington, N. Humberside, YO15 3NJ.

Miss J Adams asks if there is a User Group in the Edinburgh area. If there is, please drop a note to Mailbag. In the meantime Miss Adams, drop a line to Stuart Murray, NoSAUG (North of Scotland Atari User Group, 71 Walker Road, Torry, Aberdeen AB1 3DL, or to TWAUG (Tyne & Wear Atari User Group), P.O. Box 8, Wallsend, Tyne & Wear NE28 6DQ - either of whom may be able to put you in touch with someone to fix your 130XE that keeps cutting out.

PLAY THE GAME!

From Basildon in Essex, we have a letter from M. Tomlin, self-confessed W.A.C.O. (that's Whacky Atari Classic Owner). Mr Tomlin is disappointed that having responded by telephone to a request in the Contact column for Classic software and offering to send the advertiser a printed list or a disk file on receipt of a disk and/or SAE, the advertiser was unwilling to send even a SAE! I share Mr T's frustration, he's offering help but the person who wants it can't be bothered to contribute...

Money is tight, so Mr Tomlin is asking *"...is it possible to make up the cable that plugs into the I/O port with the centronics plug on the other end to connect a third Party printer? Two plugs and a cable cannot be that hard to make up - I cannot afford to buy one, (unless of course there are other electric components in the assembly). I am good with a soldering iron and can get both plugs if I can find out which plug goes to which pin on both ends."*

It's not as easy as that, Mr Tomlin, as the Atari Classic does not have an inbuilt Centronics interface so this has to be built into the cable or as a separate interface. Some projects have been published over the years and a kit is available from Micro Discount but there are no short cuts. Your best bet if you want to save money is to ask Micro Discount for details of their kit.

1050 PROBLEMS

Two readers are having problems with their 1050 drives. Paulo Rodriguez. R. Dr. Sidonio Pais 27 R-C, 2675 Odivelas, Portugal cannot save files or even format a disk (errors 144, 138), however the load function works perfectly.

Well, I must refer to the Mailbag column of New Atari User issue 50 and to quote Mr Ellingham, himself:

"We have answered this one several times before. Quite often the only thing that is

wrong is that the felt pad that holds the disk onto the read/write head has become compacted so that there is not enough pressure to hold the disk against the head. Just remove the case and you will see a small arm just behind the spindle which holds the disk centre. You can lift this a little and you will see a small felt pad about one eighth of an inch square on the top (facing down). Grab a paperclip, opened out, and very carefully roughen up the surface of the pad taking great care not to touch the head underneath. You should find that, once you put it all back together, the drive writes again. This works in nine cases out of ten but if you have the unlucky tenth one, then you'll have to find somewhere to get it repaired."

Thanks for the help, Les!

Dennis Saunders finds that sometimes the busy light does not come on after inserting a disk and turning the lever, and sometimes the busy light remains on and fails to go out. Can anyone advise how to rectify these faults?

DISK BOXES

Kevin Cooke from Exeter, Devon is worried about *"...the availability of 5 1/4" disk boxes. Argos and Index seem to have stopped selling them, as have the main chain stores. Perhaps the Page 6 Accessory Shop would consider selling them as people will need disk boxes as long as they need still need disks."*

How about it, Les? Would the Accessory Shop consider 5 1/4" disk boxes as a viable item? *(They are not that easy to find, our regular disk supplier has now stopped stocking them but we'll have a look round. Ed.)*

ACE C WORKS!

Back in issue 61, John Young asked if anyone could demonstrate that 'Ace C' on Page 6 PD disk DS#18 works. As mentioned previously, I've received an example disk from Daniel Carrodano showing that the product is usable, and now I have some correspondence from David Sargeant of Grantham, Lincs who thinks that *"...(Ace C) is excellent. In September last year I started a college course in programming in C and I find 'Ace C' very useful in helping me with my studies. I have written several programs and they all compile and run perfectly. The only system crash I have encountered was due to my own fault. It appears all the program files have to be on the same disk since disk swapping is not supported. I do not have 'Deep Blue C' though, so I cannot comment on Mr Young's problem of transferring programs, but 'Ace C' definitely does work.*

In case it would help anyone, here is a description of how I create an executable program with 'Ace C'.

Before you start make a system disk with these files:

DOS.SYS	*Normal DOS 2.5*
DUP.SYS	
AUTORUN.SYS	*Text Editor*
COMPILER.COM	*Compiler*
LINK.COM	*Linker*
ACECIO.CCC	*Library of pre-defined C functions*
ENGLOAD.OBJ	*C Engine. The coding which makes the language interface with the Atari*
ENGINE.OBJ	

1. *Boot the system with the Option key held down and the Autorun file executes the Text Editor. I have tried several editors with success, but I prefer TextPro.*
2. *Type your C source program and save it with the extender '.C'; a different extender or a filename containing numbers is not allowed. Exit the Text Editor back to DOS.*
3. *Choose DOS Option L and execute the compiler. At the prompt, type the source filename - without the extender ('.C' is assumed). The source file is compiled into pseudo-code and the resulting file is stored with a '.CCC' extender. Return to DOS.*
4. *Choose Option L again to execute the linker. At the prompt, type the compiled filename - without the extender ('.CCC' is assumed). The pseudo-code file is processed along with the C library and the C engine files to produce an executable binary file with a '.COM' extender. Return to DOS and try running your new program from Option L."*

Thank you David for that mini-tutorial. Has this helped anyone?

NEW NOTES FROM THE NETHERLANDS

Bill Walraven from Breda, the Netherlands was pleased to see some answers to his questions in an earlier issue. He's written again with some more observations which I'll comment on, if applicable, as we go through. He starts:

"What's the status of Turbo BASIC? How PD is it? In Holland and England it is available as PD but it was published by 'Happy Computer' in Germany."

Turbo Basic has certainly been accepted around the world as public domain, although as it originated as a type-in magazine listing it's true status may not be strictly public domain. Most Atari magazines copyrighted their programs but allowed free distribution after a short time, thus retaining the copyright but also releasing the material into the 'public domain'. The American magazines Antic, Analog and Compute! formally agreed that all of their listings could be public domain and Page 6 has never objected to circulation of its listings in the public domain, although the copyright is strictly ours as the original publisher. This is a complex issue and it probably won't serve the Atari community much by trying to confuse the issue. Just accept that almost every user in the world has come to accept Turbo Basic as 'public domain' but don't try to incorporate it into any software that is to be sold commercially and you should be quite safe.

"With reference to Jack Barnes' printer connection query in issue 65, for my Star LC-10-850 I received the following advice from Star:

(note C = 850, P = printer pin)

C1-P1	*= Strobe, computer says "DATA READY"*
C2-P2	*= D0 dataline*
C3-P3	*= D1 dataline*
C4-P4	*= D2 dataline*
C5-P5	*= D3 dataline*
C6-P6	*= D4 dataline*
C7-P7	*= D5 dataline*
C8-P8	*= D6 dataline*
C15-P9	*= D7 dataline*
C13-P11	*= Busy, printer says "WAIT"*
P12-P32	*= Error detected by printer*
C11-P16,19 thru 30	*= GND, signal ground*

and the following can be done but are not essential

C9-P36	*= Select In, printer "knows" computer is on*

P16,P19-P30 may all be wired to each other
P17 is preferably connected to wire mesh of cable mantle if present
P34 & P35 are unconnected

Thanks for that info, which should help a few Star owners. Bill continues with a question:

"Where can I find a program that shows a complete disk track, e.g. sectors (128 or 256 bytes) and all inter sector bytes?

I am unsure what you mean by a complete track and inter sector bytes. Page 6's DS#5 'Disk Editor' has proved useful for me in examining the content of disks. Anyone care to suggest more powerful(?) utilities?

"Can vector fonts be generated on the Atari Classic? i.e. fonts where the letter is drawn in lines directed by coding the angles between points. Bezier curves seems to be the answer, but my math is not up to it...

Hmmm? Good as it is, is our beloved Atari Classic powerful enough to cope with this? Prove me wrong someone, please.

Bill goes on to say that J. Dijkstra's printer tip in issue 64 is only for G.E. printers and comments that, *"in response to R Pawson's enquiry in issue 64, build-it-yourself projects and instructions and ready mades are*

Mailbag

still available in Germany, e.g. I got a spare WEFAX interface there. Interested?

Next the program "Flower Garden" in issue 61 - I typed it in practically identical from an issue of MICRO in 1983! But it's nice to have it revived.

Les comments on this one - the program was sent in to us about three years ago by Anastasios Bonidis and we had no reason to suppose that it was not his own work. It could well be that he submitted it to Micro many years earlier.

"I want to learn Forth. Who can help? I would like to write a program that could autorun from a disk."

Forth seemed to gain popularity in the 1980s but appears to have lost ground to C. There were a number of articles in ANALOG magazine - issues 13 to 31.

Thanks, Bill, for a number of interesting comments that may well stimulate correspondence for future issues.

FROM ST to XL/XE

Bill Diggins of Leeds was pleased to see the article *"...by Peter Hall in issue 65 about the transfer of files across to the ST. If Peter will forgive me, as comparatively newcomers like me find it a bit hard to understand the principle could I suggest that Peter gives a full schematic diagram detailing all the necessary hardware and software in their relative positions with connections. I am certain that any further information would be most welcome to many more people other than me."*

BR ANNOUNCEMENTS!

Our regular correspondent from Southampton, Brad Rogers (see, he does have a first name!) responds to some points in previous issues:

"In reply to Sid Berry, I didn't ever go to the Bold Forrester meetings as I was unaware of any Atari User Groups meeting in Southampton at the time.

In reply to Denham Phipps' enquiry about the 1450XLD, you neglected to mention the 1200XL which actually saw distribution in the USA for a limited period of time. Features of the machine included:

- *the possibility of bypassing the built-in operating system,*
- *the ability to disable the keyboard,*
- *the introduction of the XL features (international character set, fine scrolling, etc.)*

The second of these features would be quite useful, but bypassing the OS? Short of writing your own from scratch, what on earth was the point? One final point about the XL computers, if you've ever wondered why the key layout in the keyboard test routine doesn't look anything like your keyboard, it's because the one displayed belongs to the 1200XL.

Does anyone remember Atari announcing a CP/M module for the XL range?"

The reason I didn't mention the 1200XL was that it predated the other XL models that were announced together about a year later. The 1200XL was almost a pilot for the new range, the later models correcting some of the problems found with the 1200XL. I suppose if I wanted to do a complete history of the range we could have included the 65XEP or the 65XEM; or how about 'Infinity', the integrated combination of spreadsheet, word processor and relational database for any 64K 8-bit Atari? Or going further back into history, what about the 815 disk drive?

Back in the March 1985 issue of COMPUTE!, Bill Wilkinson noted in his "Insight: Atari" column that the keyboard self-test layout does not show any Control+Shift combinations, and it can't see Control-1 or Break. On the 1200XL, additionally the Control+function key combinations don't display properly.

RESET, RAMdisks and Other Questions

We now have a number of questions from Andrew McIntosh of Bonnybridge, Stirlingshire which, again, I'll comment on as we go along.

"Can you help me locate an article that I think was in either Page 6 or NAU about programming the Reset key in BASIC?"

I think the article you are looking for is "No Entry!" by Phil Cardwell on page 34 of issue 44 of New Atari User.

"Is it possible to have two RAMdisks available at the same time on a 256K machine and, if so, how?

As Daniel Carrodano has sent me a disk which creates an environment for Daisy Dot III using 2 RAMdisks on a 130XE, I don't believe there can be a problem in creating 2 RAMdisks on a 256K machine.

"Is it possible to utilise extended memory and RAMdisk also at the same time and, if so, how? On my 256K machine in DOS 2.5 the maximum size of the RAMdisk available only gives 1010 free sectors instead of MyDOS where it gives 1540 free sectors. Is there any way I can set the RAM disk size to use a total of 128K of extended memory, rather than using all the 192K?"

The best reference I've found for 256K machines and RAMdisks is one I've mentioned before in this column: Tim Patrick's 'SmartRAM 2.5' in the September 1989 issue of ANTIC (vol. 8/no 5).

"For some time I have been considering getting MIDIMaster II; however, is there any commercial package that supports the MIDI interface for the Atari 8-bit?"

This sounds like a question for John S Davison, or anyone else with (Atari) Classic music interests. (MidiMaster comes with its own software. Ed.)

"In issue 45, Robert Crewe and Andrew Homer described the connection of an Atari Classic to a VCR. I have tried this just to get the video tuned to the Atari. I did get a picture through the video on to a TV but the picture was very faint. Can anyone tell me how to get a good picture either through an aerial or monitor lead?"

Unfortunately, I have no experience of connecting my Atari to a VCR. Can anyone assist?

"I have been able to pick up copies of PAGE 6 issues 1 to 12 and from issue 14 on, but I have been wondering what happened to issue 13? Additionally, what was disk DS#16 in the 8-bit PD Library?"

Issue 13 must have sold out quickly! Disk DS#16 was 'Database 3'. I believe it was withdrawn because it was buggy, but I'm sure Les will confirm the reason. (It was buggy! Ed.)

"I have been trying to renumber the RAMdisk in DOS 2.5 to "D2:". Raphael Espino told me that the RAMdisk is in fact an integral part of the DOS.SYS file and the file RAMDISK.COM is merely a program that formats and copies DUP.SYS and MEM.SAV to the RAMdisk. Raphael also wrote a short program that would change the RAMdisk number in RAMDISK.COM file and make the required pokes and press reset, then go to DOS rewrite DOS/DUP files to disk. The pokes he has used are shown in the program below. But when I reload the customised version, RAMDISK.COM formats drive "D1:" instead of "D2:". Can anyone tell me why it's doing this and how to correct it?

The following performs Raphael's changes in Turbo BASIC:

```
0 ---------------------------------
1 REM DONE BY RAPHAEL JAMES ESPINO
2 ---------------------------------
5 RAMD=2: REM NEW RAMdisk NUMBER
10 DIM DAT$(1067): DAT$(1067)=" "
20 OPEN #1,4,0,"D1:RAMDISK.COM"
30 BGET #1,ADR(DAT$),1067
40 CLOSE #1
50 DAT$(670,670)=CHR$(RAMD)
60 DAT$(807,807)=CHR$(RAMD)
70 DAT$(856,856)=CHR$(RAMD)
80 DAT$(1017,1017)=CHR$(RAMD)
90 OPEN #1,8,0,"D1:RAMDISK.COM"
100 BPUT #1,ADR(DAT$),1067
110 CLOSE #1
199 ---------------------------------
200 POKE 1920,RAMD:POKE
2953,RAMD:POKE 4191,RAMD
210 POKE 1802,3: REM ACTIVE DRIVES,
ONE BIT PER DRIVE 2 = 00000011
(DRIVES 1,2)
220 ---------------------------------
```

I haven't figured out the problem with Raphael's program - I suspect the POKEs (it does the same for me, formatting D1:), but I have found a solution. Once again, it

comes from one of Bill Wilkinson's "Insight: Atari" columns; this time from the August 1986 issue of COMPUTE! The following short program is for use with RAMDISK.COM. After you boot DOS 2.5 and RAMDISK.COM, running this short BASIC program changes the DOS memory locations so that the RAMdisk is addressed as D2: (or any other drive in the range D2: to D8:).

```
100 REM
110 REM ==== REPLACE.BAS ====
111 REM BY BILL WILKINSON
112 REM COMPUTE! AUGUST 1986
120 REM
130 REM A program to replace D8: with
140 REM Dn: where n is any drive
150 REM number from 2 to 7 (or even 8)
160 REM
170 IF PEEK(1802)<128 THEN PRINT "No
RAMdisk installed!":STOP
180 REM
190 RAMDRIVENUM=2: REM Change this as
desired
200 REM
210 POKE 1920,RAMDRIVENUM
220 POKE 2953,RAMDRIVENUM
230 POKE 5439,48+RAMDRIVENUM
240 POKE 1802,PEEK(1802)-128
250 REM (for changes to line 260, see "Map-
ping the Atari")
260 IF PEEK(1802)=1 AND
RAMDRIVENUM=2 THEN POKE 1802,3
270 DIM INIT$(4)
280 FOR I=1 TO 4:READ DATA
290 INIT$(I)=CHR$(DATA):NEXT I
300 DATA 104,76,224,7
310 JUNK=USR(ADR(INIT$))
320 REM
330 REM Verify it worked
340 REM
350 DIM DRIVE$(6)
360 DRIVE$="Dn:*.*"
370 DRIVE$(2,2)=CHR$(48+RAMDRIVENUM)
380 REM
390 OPEN #1,6,0,DRIVE$
400 TRAP 430
410 GET #1,BYTE: PRINT CHR$(BYTE);
420 GOTO 410
430 END
```

Remember, don't thank me - thank Bill Wilkinson!

1027 SPARES

Finally, Dennis Saunders would also like to know where he *"...can obtain new type characters for a 1027 printer to replace the disintegrated originals."*

A VIEW FROM FRANCE

I've been an Atari Classic enthusiast since 1983. In France, the Atari XL/XE has never been greatly loved by the public but those who have bought one have enjoyed it so much, that very few of them sold it. I don't know if a lot of French Atari users subscribe to PAGE 6 but I personally think that even if we are not too many, we really appreciate our Atari Classic.

During 1989 - 1990 years, I worked for a magazine called MICRO NEWS which was selling the Atari 800XL for 200 French francs (£22). They really didn't care about the Atari Classic but I tried to test the most software possible. Of 50 tests I've done, less than 15 have been published. In France when you purchased your Atari 800XL, you could buy some software at the same shop but when the stocks of Atari 800XL were finished, they stopped selling the software. The argument was - no more computer, no more software because not enough money could be made importing Atari software. A shop I was working with called COCONUTS tried to continue selling Atari classic software but when you take a lot of advertising in computer magazines and you don't say that you sell Atari software, it's sure that you're not gonna sell a lot!

They used the same recipe as some software houses that I won't name "We are still loyal to the French Atari Classic community, we continue to sell the programs". Sure they do, but when more than 2000 people who have bought an Atari 800XL at 200 francs don't know any source of Atari software, their computer is going to finish in the closet stuck between the soldering iron and the vacuum. So in 1990, we have lost a little bit more than 2000 French users. You know what, I hate French people, they only think of themselves!

Every two months NEW ATARI USER gives you the ability to explore Atari programming. They sell Turbo Basic and they surely have the biggest public domain library ever seen in Europe. Their issue disk is full of tricks and good programs. So that's very simple - in 1994, it never has been so easy to learn Atari programming.

Now if only 25% of the European Atari Classic (a dream last night told me 50%!) community could program real commercial software, it would reactivate the market. But it doesn't stop there. I'm sure you've seen a lot of software houses for the Atari 8-bit in recent times (ANG, TIGER, KE-SOFT ...) but they all have the same problem - they don't sell enough of their programs to make profits. But does there have to be profit? Supposing we could sell our own Atari software to other users who don't have the time to program, we could then earn some money but we would not spend this money on video, alcohol or whatever, we would reintroduce it in the Atari market. It would be a closed circle which could be very powerful.

Some of you have surely seen the beautiful movie BOYZ 'N THE HOOD directed by John Singleton. In one scene, Larry Fishburne explains to his "brothers" a method of escaping from the white conspiracy about black people (if there is one and NEW ATARI USER is not a political publication). His idea was simple - don't spend any more money on guns sold by white people, don't consume any more drugs sold by black dealers but imported at the beginning by white people. Create black industry/culture and make it work independently from other markets. That's where the parallel comes in. If we could use the same idea in the world's Atari market (because the problem doesn't exist only in Europe but also in Australia, South America ...), we could make it as active as it was at the beginning of the eighties and maybe more!

To tell you the truth, I'm now programming my first real commercial program that won't be expensive and all the money I will earn with this one, I will reintroduce in buying from other suppliers or companies. In France, we say "Charite bien ordonne commence par soi-meme". In English - Charity begins at home.

P.S. I don't eat frogs! It's time to be a real community ...

Pierre Andre Berthault-Meca
Paris

TIME TO GO

That just about wraps up another Mailbag column. I might now be able to find some time to play 'Brundles'! Or catch up on some of my other correspondence...

In the meantime, don't forget to drop us a few lines with any questions you have or suggestions. How about your personal Top Tens of favourite programs? What's your favourite Adventure? Which word processor is the best? What strategy game keeps you glued to your Atari Classic for hours?

One final thought, "The New Adventures of Superman" (BBC1) is a great series - very deftly handled, portraying Lois and Clark with character. But Perry White being an Elvis fan? Great Caesar's Ghost!

Up, Up and Away!

SWIFT SPREADSHEET

Les Ellingham checks out a rarity - a newly released application program for the Atari Classic

Atari earned its reputation as a games machine many years ago with the result that very few companies bothered to develop serious application software and those who did seldom promoted it widely. A case in point is the Swift Spreadsheet, developed in 1985 by Audiogenic, a company much more widely known for their games on the Spectrum and other machines. Now The Atari Classic Programmers Club have bought the rights to this little known piece of software and given us all the opportunity to put the Classic to serious use.

Swift does not carry the reputation of Visicalc but it is a very competent spreadsheet that should cope with most needs of Classic owners. Most of the common uses of spreadsheets are accommodated and, thanks to some quite powerful extra functions, some rather more complex applications can be handled.

STARTING UP

The first thing to impress is the fact that the program will recognise what type of computer you have and will load the appropriate version of the program. On the 800XL, or 65XE, the spreadsheet consists of 26 columns and 254 rows whilst on the 130XE there are 64 columns and 254 rows. The two versions are not directly compatible although you can interchange them if you use only the first 26 columns.

Swift works in exactly the way you would expect a spreadsheet to work with text or numbers entered into cells from the keyboard and a number of formulas available for specific tasks. The program automatically distinguishes between text and numbers when entered and has a number of formatting options. For numbers you can denote negative values by using brackets, a minus sign or the letters 'DR' to indicate a debit. Currency can be in £ or $, commas can be added every three digits, zeroes can be suppressed and precision can be up to 8 digits. The choice of configuration is yours.

Other ways to format the spreadsheet include the option to alter the column widths either by individual column or globally, a feature which is, surprisingly, missing on some spreadsheets. Altering column width is achieved by using the cursor 'arrow' keys so that you can immediately see the result. A much more powerful feature allows the screen to be split into two independent sections, either vertically or horizontally, which can be synchronised or not. Such an option is vital for any large application.

MOVING AROUND

Entering information into a cell is achieved either with the Return key or with the arrow keys which will immediately move you to an adjacent cell. As well as moving a single cell in any direction, key combinations allow you to move up or down by 20 cells at a time or to home the cursor to the top cell of the visible screen or the top of the spreadsheet. Strangely there does not seem to be an option to move several columns at once.

Many operations can be performed on ranges of cells. As well as formatting a selected range you can copy a range of cells elsewhere on the worksheet, erase a range or sort a range alphabetically. This last option can prove a superb accompaniment to a word processor, for example the Tipster index in this issue was first entered and sorted on a spreadsheet before being typeset. A selected range can be saved and loaded into another worksheet or can be printed out.

CALCULATING AND FUNCTIONS

The real power of a spreadsheet is determined by its abilities to calculate and to perform specified functions. Swift recalculates automatically as data is entered but this can be disabled and done manually when the worksheet gets to be quite large. Automatic recalculation can slow things down quite considerably on a large worksheet. You can choose the method of calculation, either by row then column or vice versa as a different result could be obtained depending on how you have used your formulae.

The functions available in a spreadsheet ultimately determin its strengths and weaknesses and I am pleased to say that Swift has a very impressive array of functions available. The most common formula adds the contents of a specified range of cells but Swift can also give you the lowest or highest values in a range, can average a range, count the number of cells with values, return the square root and calculate the variance or standard deviation of a range.

Non-arithmetical functions include IF .. AND and OR enabling actions to be taken depending on results of calculations, together with the ability to jump to other cells with a GOTO command and print out a range during recalculation. Other functions include the ability to prompt the user to input numbers or text into a given cell.

One of the most unusual functions, and one that is not found on some more complex spreadsheets, is the LOOKUP function which enables the worksheet to be used as a sort of automatic database. You can, for example, enter a selection of products

SPRING A.M.S.

After seven successful shows in the autumn, Sharward Services feel that the time may now be right to extend the All Micro Show to a twice yearly event with a Spring show due to take place on Saturday 16th April at the Bingley Hall in Stafford. Given the appalling weather on the day of last November's event, a touch of Spring sunshine will be more than welcomed by exhibitors and visitors alike.

Readers of New Atari User will, of course, be primarily interested in what they can find for their Atari but there will plenty of interest on the other stands. Those supporting the Atari Classic will include

PAGE 6 who, along with their usual stock of commercial software and back issues of New Atari User will have a selection of 'one-off' commercial items as well as the ***XL/XE PD LIBRARY***, available to order on the day.

MICRO DISCOUNT with their range of disk software imported from the Continent, Turbo load cassettes and the new range of software from Zeppelin retailing at an amazingly low price.

DEAN GARRAGHTY SOFTWARE will bring along their range of commercial products which, as well as being for sale, will be demonstrated to interested parties.

GRALIN INTERNATIONAL intend to hold a clearance sale of several stock lines as well as offering special prices on regular items so some bargains may well be found.

Also in attendance will be **T.W.A.U.G** who will welcome you for chat and advice.

ST owners will also have a great deal more to see this time as the organisers have persuaded some real heavyweights to come along. These include **ATARI ST USER** magazine and **ATARI ST REVIEW** along with several other companies retailing ST equipment and software.

Of course it's not only directly related Atari products that are of interest. S.A.M.S. is the place to get all those sundries such as disks, listing paper, printer ribbons and all sorts of hobbyist hardware. Almost everything you can think of in the ancillary line will be available somewhere. Don't forget that there is also a huge Bring and Buy corner so that you can pay for the trip by bringing along some surplus equipment.

The number of stands representing the Atari far outnumber those for any other micro so S.A.M.S. is certainly the place to be for every Atari owner this spring. Last November you could pick up a working and tested disk drive for £25 or an 800XL for spares for a fiver. Who knows what bargains there will be this Spring.

See you there!

CLASSIC PD ZONE and ST ROUNDUP

We apologise to readers for the lack of these two popular columns this issue due to circumstances beyond the editor's control. Hopefully full service will be resumed next issue.

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with their prices in one part of the worksheet and then use the LOOKUP function to copy the price alongside product information entered into another section of the worksheet. This is a little difficult to visualise but, very simply, it would enable the user to enter any product from a stock list and have the price shown immediately alongside. Quite impressive.

PROGRAMMABLE

Unusually Swift is fully programmable so that more advanced users can create short programs of action that will be acted upon whenever recalculation is performed. Any of the available functions can be included and the manual gives some guidance although it is far from adequate. A general book on spreadsheets should give you many ideas although, of course not all of the functions of spreadsheets like Lotus 1-2-3 will be available with Swift.

EASE OF USE

Swift is the ideal spreadsheet for those who want something that can be used with the minimum of knowledge. Almost everything you might need is included and the manual gives a step-through example, although this might have you almost in tears! One very frustrating feature is that a calculation that ends in a number too big to fit in the width of a column gives an error message rather than a series of asterisks like most spreadsheets, and you will encounter this with the example given. I spent a good many minutes trying to figure out what I had done wrong before realising the problem. If you ever get an error try simply extending the width of the column.

The manual with the review copy really lets the package down as it is written for the Commodore version of the program. Although ACPC provide a reference card giving the Atari versions of the Commodore keys, following the example in the manual, translating every command as you go through, is extremely frustrating. To be of use the example should be completely reworked showing the Atari equivalent. Indeed the whole manual should be rewritten rather than relying on the addendum sheet provided. I understand that ACPC do have this in hand and can now provide a version with a new manual.

COST AND AVAILABILITY

The Swift Spreadsheet is available exclusively through The Atari Classic Programmer's Club, currently in a number of versions. The version with the Commodore manual and original packaging, as reviewed, is £9.95 on disk with a reduced price of £7.99 for ACPC members. The new version with a rewritten Atari manual is £12.95 reducing to £10.95 for members. Also being developed is a cassette version which will retail at £7.95 or a Turbo load cassette at £9.95. Further details on these versions, and possibly on special customised versions, are available from ACPC.

Swift is certainly a competent product and can be highly recommended to any user who wants to use their Classic for home or business finance or similar applications. You can get your copy from ACPC at Pen-Tyddyn, Capel Coch, Llangefni, Anglesey, Gwynedd LL77 7UR.

THE CATALOGUE

Robert de Letter wrote this cataloguing system for his software collection but the program can be used for many other record keeping purposes

This excellent disk based cataloguing system can easily be adapted to suit any purpose where the information to be stored requires only one line. It is based on a series of alphabetical files, one for each letter of the alphabet, which are loaded as required. Once in memory the retrieval of data is extremely fast. The program can easily be adapted to suit your own purposes by simply changing a few headings within the Basic program.

The Software Cataloguing System (SCS) is a simple program to store your software collection. With each letter (A..Z) you can save up 320 entries, making a total of 8,320 titles. Although the files are stored as letters of the alphabet, you are not restricted to using them in that way, you could, for example, use letters like Q and X to store miscellaneous items.

PREPARING YOUR DISK

To set up the system you will need, firstly, to format a disk, write the DOS files to that disk and then delete DUP.SYS. Next, copy Turbo Basic as AUTORUN.SYS to the SCS disk. Now boot Turbo Basic and type in listing 1 (use TYPO 3!). Once you have typed in the program correctly, save the program to your SCS disk as AUTORUN.BAS.

After clearing the computer's memory (NEW), type in Listing 2 (no need to save it) and RUN it with your SCS disk in drive 1. Twenty-six files (SOFTWARE.A to SOFTWARE.Z) will be written to the SCS disk and you are ready to start using the program.

USING THE CATALOGUE

There is no need to explain SCS really, as the program is quite simple to use, just follow the prompts. Pressing ESC brings you back to the menu at any time and sometimes an empty RETURN performs the same action.

Thirty-eight characters are available for each entry (e.g. 'SOFTWARE CAT.SYSTEM P-D Utility 120B') but you are not restricted to the format shown by the heading which you can change if you wish. You may also want to make other changes to the program.

The printer output is set up in line 1530 which is set for my G.E. printer (condensed print); some changes may be necessary for your printer so check your printer manual. In line 1350 instead of my name, type in your name in lower case inverse characters. Owners of an older 400 or 800 must leave out 'POKE 729,TW:POKE 730,%3' in line 1810, assuming of course they have a copy of Turbo Basic that will run on the 400/800!.

SCS uses two machine language routines, and because I still don't know how that language works I borrowed the routines from other authors. The LINES routine is by Len Golding from Atari User, June '86 and the Sort routine comes from C.F. Fogarty and was published in ANALOG 8 bit extra.

The program is designed as a disk based system but tape users could alter the program although they will need one tape for every letter!!

```
ZT 1 REM  THE CATALOGUE - LSITING 2
NH 2 REM
RW 10 DIM F$(12)
YF 20 F$="D:SOFTWARE. "
AM 30 FOR X=65 TO 90
CS 40 F$(12,12)=CHR$(X)
ZW 50 OPEN #1,8,0,F$:CLOSE #1
NZ 60 NEXT X
GM 70 CLR :END
```

Listing 2 - Run this to create 26 alphabetical disk files for your data. There is no need to keep this program after it has been run

```
EX 1 REM ########################################
IK 2 REM #        THE CATALOGUE        #
FU 3 REM #      >> TURBO BASIC <<      #
QZ 4 REM #     by Robert de Letter     #
HC 5 REM # --------------------------- #
GS 6 REM # NEW ATARI USER - 'APRIL 94 #
FD 7 REM ########################################
NN 8 REM
LB 10 REM  SOFTWARE CATALOGUING SYSTEM 
    by R.DE LETTER - (c) PAGE 6 
UL 20 EXEC INIT:IF PEEK(1536)=%0 THEN EXE
   C LINES
DC 30 EXEC TITLE:GO# MENU
YZ 40 --
HV 50 REM  SEARCH 
AT 60 CLS :POKE 709,TW-%2:POKE 710,%0:POK
   E 712,%3*%2:? "↓↓↓↓ WHICH LETTER ";:GE
   T K:? CHR$(K)
XB 70 IF K=TS THEN GO# MENU
JG 80 F$(TW,TW)=CHR$(K):OPEN #%1,F,%0,F$:
   TRAP 100:X=%1:Y=TE
BF 90 INPUT #%1;L$:R$(X,Y)=L$:X=X+TE:Y=Y+
   TE:GOTO 90
BP 100 IF R$="" THEN ? "↓↓EMPTY FILE !":P
   AUSE 70:GO# MENU
JE 110 ? "↓SEARCH FOR :":POKE 752,%0:? :I
   NPUT I$:POKE 752,%1:?
PR 120 IF I$="" THEN GO# MENU
SC 130 N=%0
RD 140 CLS
AJ 150 I=UINSTR(R$,I$,N):IF I=%0 THEN 210
YY 160 X=I DIV TE:? R$(X*TE+%1,X*TE+TE)
FU 170 IF PEEK(84)=21:? "↓      Press any
   key or ESC=MENU":GET K:IF K=TS THEN G
   O# MENU
FO 180 N=X*TE+TE:GOTO 140
JA 190 ENDIF
FU 200 N=X*TE+TE:GOTO 150
HS 210 ? "↓---- Another search ? - ESC=ME
   NU ----"
PT 220 GET K:IF K<>65 AND K<>TS THEN 220
EP 230 IF K=TS THEN GO# MENU
HE 240 CLS :? :GOTO 110
JN 250 --
TV 260 REM  ADD 
XC 270 CLS :POKE 710,138:POKE 709,%0:POKE
    712,98:? "↓↓↓↓ WHICH LETTER ";
UU 280 GET K:? CHR$(K):IF K=TS THEN GO# M
   ENU
YH 290 F$(TW,TW)=CHR$(K):X=%1:Y=TE:OPEN #
   %1,F,%0,F$:TRAP 310
DP 300 INPUT #%1;L$:R$(X,Y)=L$:X=X+TE:Y=Y
   +TE:CT=CT+%1:GOTO 300
QH 310 IF LEN(R$)=12920 THEN CLS :? "↓↓↓█
    STRING FULL !!!  ":GOSUB 1580:PAUSE 8
   0:GO# MENU
YD 320 TRAP #MENU:CLS :POKE 752,%0:POSITI
   ON %1,F:? TL$:? "......................
   |............|.....&↓"
AU 330 POSITION %0,%2*%3:INPUT L$
LU 340 IF L$="" AND S THEN 460
QX 350 IF L$="" THEN GO# MENU
KN 360 IF LEN(L$)<TE THEN L$(LEN(L$)+%1)=
   " ":GOTO 360
FQ 370 POKE 752,%1
NF 380 ? "↓↓ OK ?    (Y/N) "
YG 390 GET K:IF K<>89 AND K<>78 THEN 390
RD 400 IF K=78 THEN POKE 752,%0:? "↑█":GO
   TO 330
HT 410 R$(X,Y)=L$:CT=CT+%1:S=%1:IF CT>%1
   THEN EXEC SORT
CI 420 ? "↓ MORE ? (Y/N) "
QW 430 GET K:IF K<>89 AND K<>78 THEN 430
QE 440 IF K=89 THEN X=X+TE:Y=Y+TE:IF LEN(
   R$)=12920 THEN ? "↓ STRING FULL ! ":GO
   SUB 1580:GOTO 460
QG 450 IF K=89 THEN 320
CL 460 ? "↓ SAVING ..... ":TRAP 480:X=%1:
   Y=TE:CLOSE #%1:OPEN #%1,F+F,%0,F$
ML 470 ? #%1;R$(X,Y):X=X+TE:Y=Y+TE:GOTO 4
   70
LJ 480 GO# MENU
JX 490 --
ZF 500 REM  READ 
ID 510 CLS :POKE 710,%2:POKE 709,TW-%2:PO
   KE 712,F+F
QK 520 ? :? :? " WHICH LETTER ";:GET K:F$
   (TW,TW)=CHR$(K):IF K=TS THEN GO# MENU
RD 530 CLS :OPEN #%1,F,%0,F$:TRAP 590:POS
   ITION %1,%0:? TL$:? UL$
QG 540 INPUT #%1;L$:? L$
KD 550 IF PEEK(84)=21 THEN ? :? "        Pr
   ess any key   -   ESC=MENU       ":GOTO 5
   70
PC 560 GOTO 540
PS 570 GET K:IF K=TS THEN GO# MENU
QS 580 CLS :POSITION %1,%0:GOTO 540
IP 590 ? :? "         PRESS  ANY  KEY
             ":GET K:GO# MENU
JH 600 --
BP 610 REM  DELETE   CHANGE 
DU 620 CLS :IF C THEN POKE 709,TW+%2:POKE
    710,54:POKE 712,50:GOTO 640
OQ 630 POKE 709,TW:POKE 710,36:POKE 712,9
   0
VC 640 X=%1:Y=TE:XX=%1:YY=TE
AC 650 ? "↓↓↓ WHICH LETTER ";
UU 660 GET K:? CHR$(K):IF K=TS THEN GO# M
   ENU
HJ 670 F$(TW,TW)=CHR$(K):OPEN #%1,F,%0,F$
   :TRAP 690
ED 680 INPUT #%1;L$:T$(X,Y)=L$:X=X+TE:Y=Y
   +TE:CT=CT+%1:GOTO 680
UC 690 IF T$="" THEN ? "↓EMPTY FILE !":GO
   SUB 1580:PAUSE 60:GO# MENU
ID 700 X=%1:Y=TE:L=LEN(T$)
YU 710 ? "↓↓↓BROWSE or PICK ?"
IP 720 GET K:IF K<>66 AND K<>80 THEN 720
AB 730 IF K=80 THEN CLS :GOTO 960
RJ 740 CLS
JW 750 L$=T$(X,Y):POSITION %1,F+%1:? L$:G
   OSUB 1570:IF C THEN 850
VU 760 POSITION %1,TW:? " Change this rec
   ord ? Y/N "
GU 770 GET K:IF K<>TS AND K<>78 AND K<>89
    THEN 770
FJ 780 IF K=89 THEN S=%1:GOTO 930
TI 790 IF K=78 THEN 820
PA 800 IF S THEN R$(LEN(R$)+%1)=T$(X,LEN(
   T$)):GOTO 830
KZ 810 GO# MENU
TV 820 R$(XX,YY)=L$:XX=XX+TE:YY=YY+TE:IF
   Y<>L THEN X=X+TE:Y=Y+TE:GOTO 750
EF 830 IF CT>%1 THEN EXEC SORT
PN 840 GOTO 460
JL 850 POSITION %1,TW:? " Delete this rec
   ord ? Y/N "
GS 860 GET K:IF K<>TS AND K<>78 AND K<>89
    THEN 860
TA 870 IF K=78 THEN R$(XX,YY)=L$:XX=XX+TE
   :YY=YY+TE:GOTO 910
DE 880 IF K=89 THEN S=%1:GOTO 910
NY 890 IF S THEN R$(LEN(R$)+%1)=T$(X,LEN(
   T$)):GOTO 460
KY 900 GO# MENU
KX 910 IF Y<>L THEN X=X+TE:Y=Y+TE:GOTO 75
   0
PK 920 GOTO 460
QQ 930 POSITION %1,TW:? "
          ":POKE 752,%0:POSITION %1,F:
   ? TL$:POSITION %0,F+%1:INPUT L$
RX 940 IF LEN(L$)<TE THEN L$(LEN(L$)+%1)=
   " ":GOTO 940
KW 950 POKE 752,%1:POSITION %1,F:FOR N=%1
    TO TE:? " ";:NEXT N:POSITION %0,F+%1:
   ? " ":GOTO 820
RQ 960 R$=T$
JV 970 ? "↓↓ Search for ... ":POKE 752,%0
   :? :INPUT I$:POKE 752,%1:?
CD 980 IF I$="" AND S=%1 THEN 460
QN 990 IF I$="" THEN GO# MENU
JC 1000 N=%0
IG 1010 CLS
AY 1020 I=UINSTR(T$,I$,N):IF I=%0 THEN ?
```

THE CATALOGUE


```
   "↓ NOT FOUND !! ":GOSUB 1580:PAUSE TE+TW:CLS :GOTO 970
BN 1030 X=I DIV TE:CLS :POSITION %1,F+%1:? T$(X*TE+%1,X*TE+TE):Q=X*TE+%1
LB 1040 IF C THEN 1200
UD 1050 POSITION %1,TW:? " Change this record ? Y/N ":GOSUB 1570
SX 1060 GET K:IF K<>78 AND K<>89 THEN 1060
XB 1070 IF K=78 THEN CLS :GOTO 970
LN 1080 S=%1
NA 1090 IF C THEN 1220
BJ 1100 POSITION %1,TW:? "                                      ":POKE 752,%0:?
LZ 1110 POSITION %1,F:? TL$:POSITION %0,F+%1:INPUT L$:POKE 752,%1:?
YL 1120 IF LEN(L$)<TE THEN L$(LEN(L$)+%1)=" ":GOTO 1120
CH 1130 T$(Q,Q+37)=L$:R$=T$:IF CT>%1 THEN EXEC SORT
LH 1140 T$=R$
EZ 1150 CLS :? "↓↓Continue or ESC=MENU"
AD 1160 GET K:IF K<>67 AND K<>TS THEN 1160
WG 1170 IF K=67 THEN CLS :GOTO 970
MN 1180 IF S THEN 460
OP 1190 GO# MENU
HX 1200 POSITION %1,TW:? " Delete this record ? Y/N ":GOSUB 1570
PV 1210 GOTO 1060
HD 1220 IF CT=%1 THEN CLOSE #%1:OPEN #%1,F+F,%0,F$:GO# MENU
DZ 1230 IF Q=%1 THEN T$=R$(Q+TE,LEN(R$)):GOTO 1260
UJ 1240 IF Q=LEN(R$)-37 THEN T$=R$(%1,Q-%1):GOTO 1260
XP 1250 T$=R$(%1,Q-%1):T$(LEN(T$)+%1)=R$(Q+TE,LEN(R$))
WT 1260 R$=T$:GOTO 1150
WD 1270 --
XX 1280 PROC SORT
EV 1290 A=USR(ADR(SORT$),ADR(R$),CT,TE,20,%1)
YI 1300 ENDPROC
VN 1310 --
ZJ 1320 # MENU
TC 1330 GRAPHICS %0:EXEC BREAK:DL=DPEEK(560):POKE DL+%3,71:POKE DL+%3+%3,%3+%3:POKE DL+7,%3+%3:POKE DL+8,7
HV 1340 POKE 710,96:POKE 712,TW+%2:POKE 709,TW:POKE 708,%2:POKE 752,%1
VF 1350 POSITION F,%0:? "-- S.C.S. --":POSITION %2,%1:? "robert de letter"
RE 1360 CLOSE #%1:CLOSE #%2:C=%0:S=%0:CT=%0:R$="":T$="":L$="":I$="":TRAP #MENU
TM 1370 POSITION %0,4:POKE 82,TW:? "[1] ADD":? :? "[2] READ":? :? "[3] DELETE":? :? "[4] CHANGE"
KA 1380 ? :? "[5] SEARCH":? :? "[6] PRINT":? :? "[7] EXIT"
GO 1390 GET K:K=K-48:IF K<%1 OR K>7 THEN 1390
JZ 1400 GRAPHICS %0:EXEC BREAK:POKE 82,%1:POKE 752,%1
UM 1410 POKE 1540,PEEK(88):POKE 1541,PEEK(89):POKE 560,%0:POKE 561,%3*%2
FP 1420 ON K GOTO 270,510,1430,620,60,1460,1550
MN 1430 C=%1:GOTO 620
VY 1440 --
WM 1450 REM PRINT
VU 1460 CLS :POKE 712,TW:? "↓↓↓ PREPARE PRINTER, then press a key. ":GOSUB 1580:GET K
CA 1470 ? "↓ WHICH LETTER ";:GET K:IF K=TS THEN GO# MENU
IR 1480 F$(TW,TW)=CHR$(K):? CHR$(K)
ZC 1490 X=%1:Y=TE:OPEN #%1,F,%0,F$:TRAP 1510
FX 1500 INPUT #%1;L$:R$(X,Y)=L$:X=X+TE:Y=Y+TE:GOTO 1500
CP 1510 IF R$="" THEN ? "↓ NO ENTRIES !! ":GOSUB 1580:PAUSE 40:GO# MENU
CZ 1520 TRAP #MENU:OPEN #%2,F+F,%0,"P:":X=%1:Y=TE
JA 1530 ? #%2;CHR$(TS);CHR$(20);" |";R$(X,Y);:X=X+TE:Y=Y+TE:IF Y>LEN(R$) THEN ? #%2:GO# MENU
RF 1540 GOTO 1530
ST 1550 CLR :POKE 82,%2:GRAPHICS %0:END
WG 1560 --
PT 1570 FOR D=15 TO %0 STEP -0.1:SOUND %0,52,10,D:NEXT D:RETURN
QX 1580 FOR D=%1 TO %2:SOUND %1,20,%2,15:PAUSE %3:SOUND %1,%0,%0,%0:PAUSE %3:NEXT D:RETURN
WP 1590 --
DJ 1600 PROC LINES
HM 1610 FOR A=%0 TO 54:READ D:POKE 1536+A,D:NEXT A
BY 1620 DATA 16,16,80,66,255,255,0,2,0,2,0,2,0,2,0,2,0,2,0,2,0,2,0,2,0,2
WC 1630 DATA 0,2,0,2,0,2,0,2,0,2,0,2,0,2,0,2,0,2,0,2,0,2,0,2,0,2,65,0,6
ZA 1640 ENDPROC
WF 1650 --
GD 1660 PROC TITLE
FH 1670 GRAPHICS %0:EXEC BREAK:POKE 752,%1
DD 1680 ? "↓↓↓↓→→→************************************":? "→→→→                    *"
FE 1690 ? "→→→* SOFTWARE CATALOGUING SYSTEM *":? "→→→*                    *"
KY 1700 ? "→→→* ---------------------------- *":? "→→→*                    *"
UR 1710 ? "→→→*      By ROBERT DE LETTER     *":? "→→→*                    *"
HE 1720 ? "→→→*      --------------------    *":? "→→→*                    *"
KL 1730 ? "→→→*          FOR PAGE 6          *":? "→→→*                    *"
NK 1740 ? "→→→*          ----------          *":? "→→→*                    *"
VM 1750 ? "→→→**********************************"
ZZ 1760 PAUSE 145
ZL 1770 ENDPROC
WQ 1780 --
PF 1790 PROC INIT
QN 1800 F=4:TW=12:TS=27:TE=38:DIM F$(TW),L$(TE),I$(TE),R$(12920),T$(12920),SORT$(328)
RC 1810 DIM TL$(TE),UL$(TE):F$="D:SOFTWARE. ":POKE 729,TW:POKE 730,%3
CL 1820 TL$="         TITLE          KIND    NO.  ":UL$(%1)="-":UL$(TE)="-":UL$(%2)=UL$
BF 1830 SORT$(%1,75)="X"/qJ/h/0hIhP XPh hhJP↑h/T◆h L Ph K 0h ah ◆h Ch bhh fh eh 0i h d%ei♥ e%aP/%◆I"
VS 1840 SORT$(76,150)=" ◆I%cP/%bI H◆?%fI H 9┘%def U%ei♥ H%cEH◆&%bEU◆ %0 H%P N┘%He b 0%Nec P┘%Hed U%Ne"
SA 1850 SORT$(151,225)="e K┘%0ed X%Pee Y ♥1XQU◆XP HDfPs┘%gi h g%hi♥ h%gE◆P/%hEaP)&Qp$/gJ/h/Q%K 0%L P"
FD 1860 SORT$(226,300)="0%◆i h ◆%ai♥ aP\%◆I HP ◆P<%b T%c U%H V%N H%0 X%P Y ♥&Tp I T1UH1X U XfUP fWfXP"
DB 1870 SORT$(301,328)=" fYJPg&Up J/U")fTPZ&TPNh/QP/"
ZQ 1880 ENDPROC
WV 1890 --
SG 1900 PROC BREAK
ZC 1910 POKE 16,64:POKE 53774,64
ZA 1920 ENDPROC
WF 1930 --
```

8-BITS, ST'S AND STEAMROLLERS

by Gordon F. Hooper

There is always some controversy regarding the relative merits of the 8-bit and ST, and user groups can spend much time debating this topic. I would like to take this opportunity to expound on the computer I use and why it is far superior to the ST. You got it, I manufacture these insightful, intelligent and thought-provoking articles on an 8-bit.

My 130XE is so obviously preeminent that I wonder why I bother to spend the time chronicling it. I could be delving into something important, like why I always vote for the best candidate, only to watch him/her become an excelling incompetent when elected. I have no chauvinistic feelings here. Women have proven themselves to be as ignorant, biased and opportunistic as men when the trough beckons.

Oh, well. Back to the subject at hand. The main reason the 8-bit is superior is price. After all, being cheap is the number one reason given for buying an Atari. The 8-bit today can be picked up for anywhere from 20 to 75 dollars used. Don't go looking for a new one: Atari quit manufacturing them when it appeared they might become wildly successful. Compare this price to a 1040 STe and you will be forced to admit defeat before I go any further.

8-bit software is easier to use. This is because any time there is an increase in memory, some idiot programmer will fill it up. This is the main reason you want to avoid at all costs an IBM 486. With that much memory, your word processor will do an untold number of things you will never have occasion to use. But you'll have to learn it simply because it's there. This is the same line of reasoning given by other idiots for why they climb mountains. At least you won't get a frostbitten nose trying to conquer a piece of software. And if you lose your grip on your computer chair, it isn't 1500 feet straight down to the floor.

The mouse is another good reason to avoid an ST. It used to be when you had a Model T Ford that any repairs could be accomplished in your own backyard. Try doing this on your computerized BMW that cost $60,000 and has turbocharging, fuel injection and a compact disc player. Adding mice to computers just gives one more thing to go wrong. And it will. But not on my XE.

The 8-bit has a smaller footprint (square inches of desk space it occupies) than an ST. This allows you to put important things like a six-pack of beer on those bare areas of desk for the times you are so angry you wish you had never heard of the word "computer". This happens to me more often than I am willing to admit. One of these days I will be able to afford my dream car, a 57 T-Bird with a supercharged 427 in it. Then, my life's objective realized, I will leave two strips of rubber fifty-one and a half feet long by eighteen inches wide before running over whatever computer I happen to be using at that point in time.

The single-sided drives of the 8-bit also have an intrinsic advantage over the double-sided ST drives. Because you get aerobic exercise flipping disks, you don't run the risk of becoming a complete computer nerd.

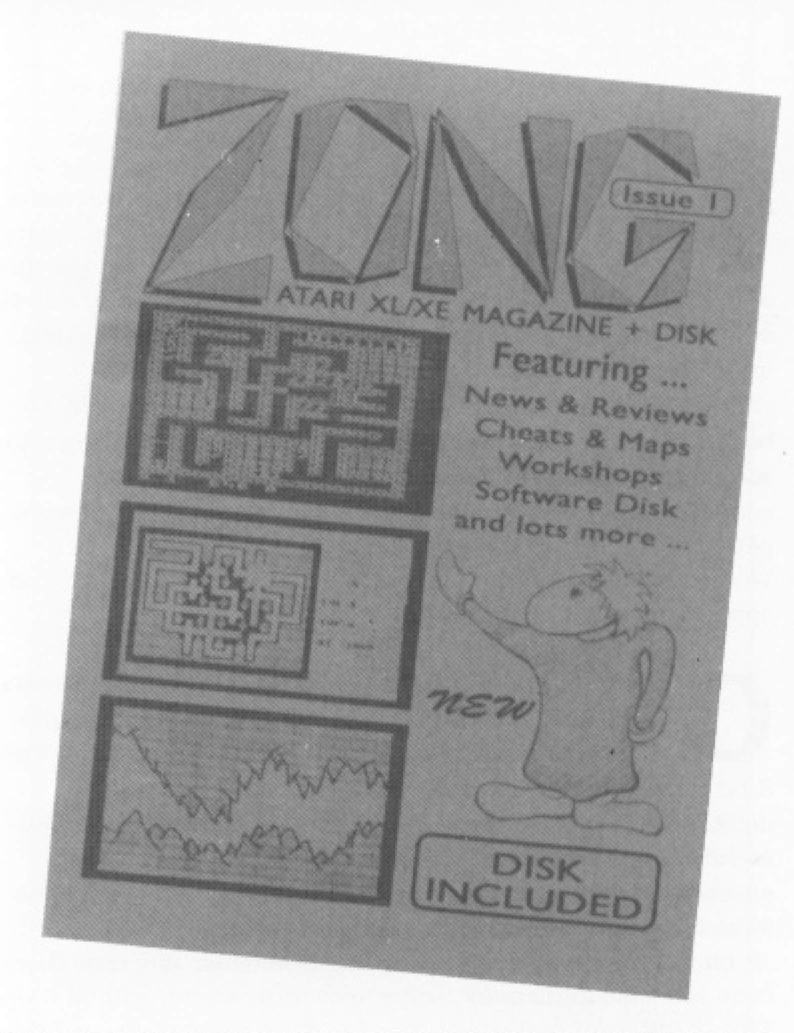
To connect a printer to the 8-bit requires an interface rather than a simple Centronics connection cable required to wire it to an ST. This fact causes the 8-bit owner to exercise his intelligence trying to coordinate DIP switches on the interface. The ST owner, meanwhile, mindlessly connects the Centronics cable between the computer and printer and then has to spend two and a half days trying to think of something intelligent enough to dump out to the printer. In that length of time, the 8-bit owner normally has had enough time to reason out how to set the DIP switches. If he hasn't figured it out by then, it is considered a wise idea to get the steamroller keys out of his sight.

The 8-bit's 5 1/4 inch disks are vastly superior to the ST's 3 1/2 inch versions because the smaller an item is, the easier it is to lose. If I have a deadline coming up in 10 minutes, I want to be looking for the biggest disk possible. It's too bad the 8 inch disk is no longer available because I will lose anything not stapled to my body. Compare it to losing your pin and my crowbar in a shag rug. I'll find my crowbar and be committing B and E's long before you even realize the only way to find your pin is to walk barefoot through the rug until an excessive amount of pain causes you to indulge in words your mother never taught you.

I was going to end this article here after having given you the irrefutable evidence of the superiority of the 8-bit compared to the ST. However, to be fair about it, I feel I have an inherent duty to present the other side of the story.

After due consideration, the only advantage I can see to the ST is that it is heavier. This is a distinct advantage when killing rats in your basement, but I'll leave it to the ST owners to fill us in on any other supposed benefits. ●

READ ALL ABOUT IT!



ZONG was created in 1989 by Ke-Soft. It's a printed magazine for German Atari 8-bit users and is accompanied by a disk containing various software. I described the May 1992 edition in a previous article but could not really recommend it to English readers since, like me, they would probably not understand the content! However, following discussions with Micro-Discount, Ke-Soft's proprietor Kemal Ezcan decided to produce a limited print run of an English language Zong. This was first offered at the All Micro Show in Stafford last November, and is still available from Micro Discount - while stocks last.

The magazine comprises twenty-four A4 pages, and a double sided disk attached to the inside front cover. The first five pages are mainly devoted to reviews of Ke-Soft games such as Bomb, The Brundles and Donald. A couple of golden oldies - Final Legacy and Star Raiders II - are also described (both can be purchased from Ke-Soft). The next section suggests handy cheats for eighteen different games, including Artefakt Przodkow. To use some of the cheats you need a 'freezer' program that lets you change the memory contents of a running game, while others require a sector editor to modify specified bytes. For adventurers, maps of Alternate Reality - The City, Zork II and Blade of Blackpoole are provided and elsewhere some new public domain disks are reviewed. A 'workshop' section discusses different sorting algorithms with several examples and there is a lengthy tutorial on games programming in Turbo Basic. There are more programming problems solved in the remainder of the workshop section, which features a simple video-title program and an illustration of BIG text. The closing pages detail the contents of the attached disk.

Paul Rixon tries to find what else there is to read about the Classic and comes up with two other magazines for you

On side A the disk presents seven programs. Berg Shooting is a simple 'hit-the-target' game and Castles of Confusion is a neat arcade adventure, the object being to collect treasures and find your way to an exit. Invention No. 13 is a musical masterpiece by none other than Mr Bach (an Atari addict too?). In Zauber Wald II you become a daring Wizard who needs to retrieve a hidden treasure and avoid a monster at the same time. Mouse is a sliding-tile based puzzle in which you have to form a path for the advancing mouse, to help him reach the cheese. Sabotage is another shoot-em up, this time set in the headquarters of Dr Bamuse, whilst Suicider should be a mining expedition - but all I encountered was a Basic run-time error! On side B you will find a commercial product from Ke-Soft, though I won't name it since the title isn't exactly tactfully worded! Suffice to say you may utter something similar during play.

If you'll excuse the odd dud game (or two), Zong is well worth an investment. The written content centres largely on Ke-Soft products, but includes such highlights as the game writing tutorial. The availability of future English Zongs will ultimately depend on your response to this first edition. Why not try one?

READ ALL ABOUT IT continued

THE ATARI 8-BIT NEWS-PAPER has taken the place of a previously published disk-mag. Remember the News-Disk? Dean Garraghty's regular disk-based magazine has now migrated to paper format, and has accordingly been renamed THE ATARI 8-BIT NEWS-PAPER (a descriptive title, albeit not too snappy!). Its construction takes the form of an A5 booklet, with a card cover and around twenty pages of fairly small print. The standard spiel on the contents page informs us that readers' submissions are encouraged (in fact, essential) and rewarded by free PD disks from the DGS library.

Issue one kicks off with a gaming column, covering reviews of Tiger Developments' releases Kult and Miecze Valdgira. There follows an in-depth review of the Panasonic KX-P1123 printer, which appears to be a good choice for anyone seeking a budget priced (but high quality) dot matrix. There is an article describing the procedure for adding a write protect switch to your 1050 disk drive (at your own risk!) and a keen Atarian justifies his loyalty to the 130XE. In the final two pages, the history of computers is discussed from the Pascaline mechanical calculator of 1642 to the launch of the 6502 chip, as implemented in your favourite micro (but nothing worth mentioning has happened since then!).

The second issue begins with a very detailed report, by several authors, of the seventh All Micro Show. The gaming column continues with a look at the Brundles, Ke-Soft's brilliant Lemmings clone (but watch out for more versions coming soon?). Gaming fanatics are also treated to a round-up of Tetris clones in both the commercial world and public domain. If you have purchased QUICK - the powerful new programming language from Germany - you'll be delighted to find the first instalment of a Quick tutorial series. In the hardware section, the answer to 1050 disk drive noise problems is revealed - all you need is foam and WD40! ANG's stereo upgrade module, available from Gralin and Micro discount, is reviewed in favourable terms and finally there is a review of PD software, all available from DGS.

If you like to read about Atari matters and want to help sustain support for your machine, you should certainly consider subscribing to the Atari 8-bit News-Paper. The biggest advantage is that, unlike a disk-based magazine, you can sample this one over breakfast!

USEFUL INFO

ZONG *is published by Ke-Soft of Germany but the English edition is distributed by Micro-Discount, 265 Chester Road, Streetly, Sutton Coldfield, West Midlands, B74 3EA. The price is £4 inclusive.*

THE ATARI 8-BIT NEWS-PAPER *is published by DGS who are located at 62 Thomson Avenue, Balby, Doncaster, DN4 0NU. A four-issue subscription costs £6.*

TAPE TANGL

Steve Hooper has a few ideas for problem tapes that anyone can try. If you have problems with tapes, try these ideas before binning them or sending them back to where they came from

Anyone who has ever owned a cassette data recorder (and who hasn't?) will, no doubt, have experienced problems at some time or another with this temperamental piece of hardware. Although arguably 95% reliable, your recorder can, sometimes, stoop to the same efficiency level as an XC10 joystick after a light grilling with Warhawk.

The cassette recorder forces you to think ahead. You have to adapt some of your life to it. You have to take into account its capabilities as a peripheral. You have to make decisions. You have to think 'I want to play Gauntlet shortly (in an hour/not at all), so if I start the load procedure now (8 hours ago/never), the probability of it actually loading will be 5% (75%/0%), after I have had three pints of tea and watched the worst hits of Eldorado.'

Even thought the Compact Cassette can be, at its best, extremely reliable (surely beating the floppy disk hands down as a reliable recording medium), we still end up with *LOAD ERRORS* occasionally. The error isn't exactly reported in the most graphic detail possible when booting games from coldstart - a *LOAD ERROR* is flagged to the unsuspecting user, and the tape stops (if you're lucky). I'm not on my soap box, but why can't an error number be displayed? Sometimes the problem is about as obvious as why Atari decided to stop manufacturing anything and everything associated with the combined words 'Atari' and 'eight-bit'. Unfortunately, the recorder is not very helpful at giving excuses, whereas Atari Corp. (UK) are really rather good at giving excuses ... er, I mean, reasons.

What do you do, then, should you be unfortunate enough to encounter a *LOAD ERROR*?

BLAME THE CASSETTE

If your new piece of software doesn't load first time but old favourites do, the Finger of Suspicion must surely point to the actual cassette itself or, specifically, the physical tape held within it. The recorder can't be expected to read data from a tacky cassette!

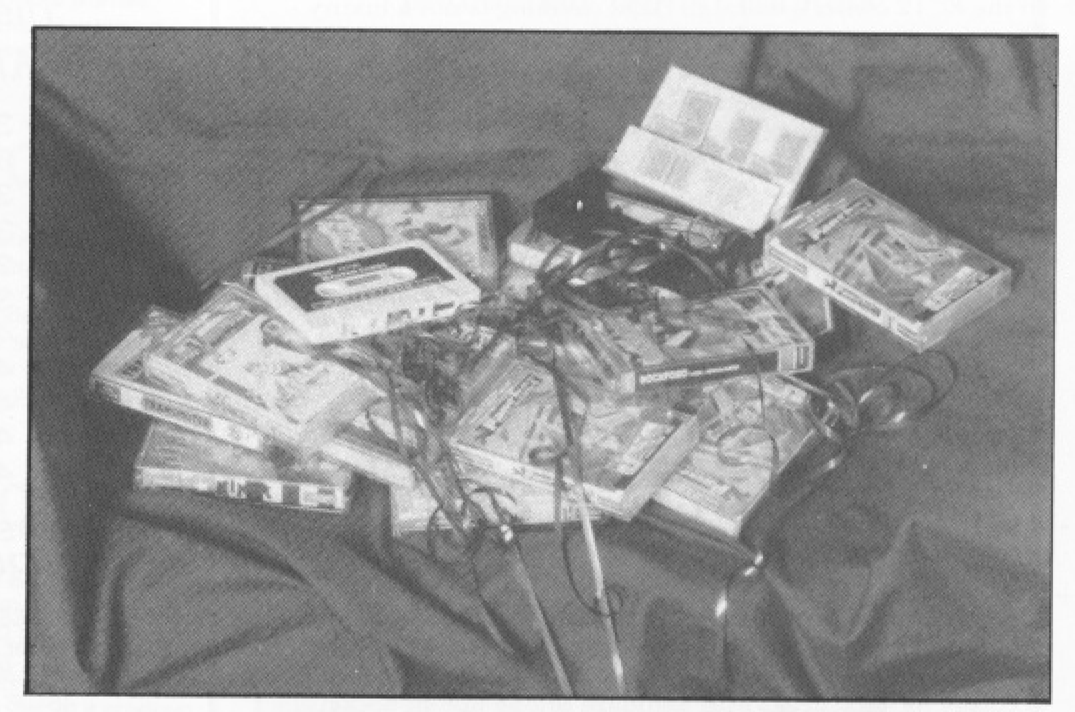
The tape inside the cassette can become too tightly wound on the spool with the result that, when you attempt to load the program, the tape moves too slowly across the read head, or fluctuates in speed (this is technically known as Wow and Flutter). If the tape is tightly wound, the recorder's relatively fragile motor struggles to play the tape at the near constant speed that the Operating System requires for correct data transfer to the computer, resulting in a LOAD ERROR. The O.S. is quite clever in this respect, because it works out the speed of data transfer (the Baud) at the start of each record using marker characters on the tape. The input rate is assumed to be a nominal 600 baud (600 bits of data per second), but is adjusted by the O.S. to account for drive motor variations (that is, different speeds) and stretched tape. Theoretically, baud rates in the range 318 to 1407 baud could be handled but, on a practical level, this is probably not the case. The trouble is, if a significant speed change occurs in the middle of a record, it is unlikely that the Operating System could compensate and you would be on the receiving end of a load error! In particular, poor quality cassettes can also cause load errors if the tape snags against the inside of the cassette shell or on the guide wheels. For this reason avoid cheap and nasty '20p market stall' cassettes for your own recordings if possible and write to your MP if you find that commercial offerings are not up to scratch (see what kind of response you get!).

WHAT CAN YOU DO?

I have explained the main problem with cassettes, but what can you do about it?

If the cassette *is* tightly wound then try repeatedly forward winding the tape on the spools. Check the results by winding one of the spools in the correct direction using a pencil - if it seems difficult to turn try this idea a few more times. Afterwards, not only will you be very fed-up, but you might also have a cassette which will now load first time, and on subsequent occasions. Note that this method is more useful for long

.ES?



tapes, as they tend to get more tightly wound.
Do this with all blank cassettes and new software you buy as well, because when a tape leaves the factory, the spools might be packed too loosely or too tightly. Repacking, using the method described, evens the tapes out and makes for better tape alignment and loading or recordings.

GIVE IT A CLOUT!

So, what else can you do? Hit the cassette against a table a couple of times! Although this sounds ridiculous, by doing this you will feel much better (unless you have a hangover). You will probably also find that the tape 'sits' properly inside the cassette shell, reducing the likelihood of the tape snagging. Don't be too enthusiastic, otherwise you may find that the cassette will have dissociated itself into many differently shaped pieces which cannot be reassembled.

A permanent solution to these problems is to make a backup copy of all software that you use regularly (as I' sure many readers do). Many older games (I say games because there is little serious software available to cassette users - no Superscript, News Station, Page Marshal, News Room, Print Shop etc.) are impossible to replace new.

Blank cassettes are usually well made and, if a good copy is produced, your program will load perfectly many times over, which has got to be good news for your sanity! Two or three 15 minute plus loaders can be fitted on one side of a D90. Of course, if commercial tapes were a bit more reliable, you probably wouldn't need to copy them to make them load in the first place.

I recall having to move tape from an original cassette shell to one belonging to a blank cassette, just to get a game to load (there's that word again!). The game was Loco (by Alligata) and had been stored by a friend in his loft for many years, after his 800XL gave up the ghost and kept diving into Self-Test. The cassette had got a bit damp and buckled but, fortunately, it was held together by screws as opposed to being of the moulded type. The transplant was effective. If you buy (or inherit?) any software like this, why not give this idea a try? *As a last resort though.* Just remember to rewind the tape to the beginning and only handle the plastic tape leader. Lift the two spools off the opened, flat shell and carefully place them into the new shell. Make sure the leader is directed around the guide wheels and through the plastic runners, otherwise the tape could get damaged and tangled. Then simply screw on the other half of the new cassette shell, fairly loosely but so that the spools don't fall out of place (why does it sound so simple?). You will have to repack the spools which is the reason for not tightening the shell tightly, otherwise the tape might get jammed. When you are satisfied everything is working as it should and is visibly okay, tighten the screws.

COULD IT BE YOU?

Other points to consider include checking that you are following the loading instructions properly (then who doesn't?). Does the OPTION key really need to be held down as well? Some games would have you believe they need BASIC to run, when they don't. Correct me if I am wrong, but I think some of the Mastertronic range suffer from incorrect printed loading instructions. Certainly, Crystal Raider and L.A. Swat are two examples which require both START and OPTION to load.

Always wind the tape off the leader to the start of the continuous tone - the computer doesn't then get confused with random garbage noises that come before.

Get to know the Noisy I/O feature. This is provided so that the success of reading the tape can be determined - this is really only available with CLOAD. We've all heard those weird noises through the TV loudspeaker before (and we've turned the volume down before the neighbours start complaining, eh! - echoes of the 65XE Using Manual coming in there, sorry).

LET'S BLAME THE RECORDER

So what of the recorder itself? Keeping the erase and read heads clean of magnetic particles is a necessary entry on the 'must do after 20 hours use' list. Large amounts of magnetic particles left on the heads can scrape away the tape on other

cassettes with the result that, in extreme circumstances, bits of data can be lost. You'd be forgiven for wondering what this is all about, as this subject isn't even mentioned, for example, in the XC12 owner's manual. Head cleaning is not a luxury - it's certainly not expensive. Ear cleaning sticks are available from your local chemist, as is isopropanol alcohol - a cleaning solution. Cassette retailers probably sell the all-in-one kits from Allsop and ON (at a price these handle the cleaning process automatically). You will, of course, need to clean all parts of the mechanism in contact with the tape - this includes the pinch roller and capstan as well. Press PLAY on the recorder, type POKE 54018,52 and press RETURN to get the roller and capstan spinning so that they can be cleaned easily. Press RESET when you have finished.

USE ANOTHER RECORDER?

If you are absolutely fed up with your recorder, there's no reason why you could not use an external tape recorder or deck to make better, more reliable, recordings at least. You' still have to use your Atari recorder for loading purposes as the interface is required for this process. If you have a tape recorder (or tape deck) with standard phono line-in sockets, details of how to make the appropriate connecting lead and other valuable info can be found in John S Davison's Sound Recording article on pages 34 and 35 of Issue 34 of Page 6/NAU.

On the subject of cables, if you are continually getting load errors, check that the serial cable is pushed home correctly and that all metal lugs in the serial cable connector are clean of corrosion and locked into position correctly. If one or more lugs are corroded, it is useful to remove them for cleaning purposes. The lugs are made of springy metal and can be removed with the plastic 'triangle' cover off. By pressing on the notch on the top of a lug with the end of a small screwdriver, the lug can be unlocked and removed. It will relock when pushed back into position from the other direction.

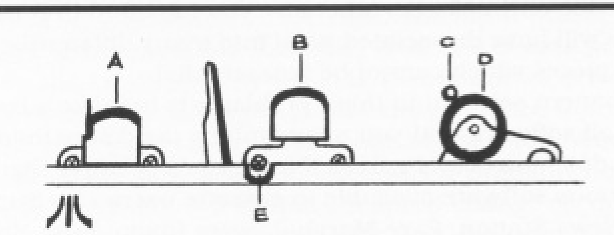
NOT THE TRACKING!

I should mention tracking (Azimuth). The tracking screw allows minor adjustments to the position of the read head so that information is read at an optimum from the tape, the optimum position for the read head being perpendicular to the tape path. Tracking affects the clarity of signals being read off the tape, however, small variations in correct tracking do not matter when reading just two different signal frequencies (5327 Hz for a 1-bit and 3995 Hz for a 0-bit with the Atari system), however if the tracking is way off line then load errors may occur. Ideal tracking becomes important when using Rambit Turboload tapes, where there is little room for error during the fast data transfer. Beware, though, because any recordings made with the tracking in its original position may fail to load after the tracking has been re-aligned, particularly if it was far off line in the first place. Having said that, I haven't experienced any problems with this.

If you think the tracking in your recorder may need altering, and aren't sure how you should go about it, here's how! Alter it at your own risk!

Firstly, you will require a small Philips type screwdriver. Type POKE 54018,52 to turn on the cassette motor and open the I/O audio channel. Listen to a cassette with data on it or, alternatively, an old music cassette which you wouldn't dare listen to in public any more. EJECT the tape and press PLAY once more. Fractionally turn the adjust screw in one direction (the adjust screw is directly below the notch in the case, to the left of the read head). Listen to the tape again. If the sound has become more dull, turn the screw in the opposite direction and listen again. As you make these fine adjustments, a point should be reached where the sound is at its brightest and cleanest to the human ear. The tracking is now set properly.

That's it - some ideas which may go some way to ensuring your cassette recorder behaves itself. If you have a spot of bother, try them (the spot will clear up immediately).



A - ERASE HEAD
B - READ/RECORD HEAD
C - CAPSTAN
D - PINCH ROLLER
E - TRACKING ADJUST SCREW

Figure 1
View of tape mechanism with play depressed

TYPO 3

Here is our unique TYPO 3 program which we recommend that all readers use when typing in programs. This utility will ensure that each line you type in is correct as you type it in. No more worries about which lines you may have typed in wrongly when a program won't run. This version is fully reset proof so that it will remain in memory at all times.

WHY USE TYPO?

The program listings in NEW ATARI USER are prepared carefully to ensure that they can be typed in as easily as possible. Before typing any listings ensure that you are familiar with the use of the Shift and CONTROL and INVERSE keys as outlined in your computer manual. The listings are prepared to match exactly what you seen on screen. By using TYPO 3 you can ensure that you type in the programs EXACTLY as they are printed. Remember, a single typing mistake may mean that a program will not run.

WHAT ARE THOSE CODES?

Each line of a program printed in NEW ATARI USER begins with a special two letter code. *THESE SHOULD NOT BE TYPED IN.* They are compared with a similar code produced by the TYPO program for you to check whether you have typed the line in correctly. IF YOU HAVE NOT ALREADY TYPED IN THE TYPO 3 LISTING, PLEASE DO SO NOW. The program can be used as you type in each line of a program or to check an already typed program. The code for each line should match but if you have problems check the CONTROL characters shown in your manual, as the most common mistake is using a CONTROL character incorrectly. TYPO 3 cannot check whether a line has been missed, so if the TYPO codes match and you still have problems in running a listing count the lines in the program and ensure that none are missing. If the TYPO codes match, there are no missing lines and the program still does not run, LIST it to cassette or disk using LIST "C:" or LIST "D:filename", switch off the computer, re-boot and then ENTER the program using ENTER "C:" or ENTER "D:filename". Save this version in the normal way.

HOW TO USE TYPO 3

1. Type in the listing carefully for, although you can use TYPO to check itself (see 6 below), it may not work if you have made mistakes.
2. SAVE or CSAVE a copy of the program.
3. Each time you want to type in a program listing run TYPO 3 first. The program will install a machine code routine in memory and then delete itself. Now type in a line as shown in the magazine, excluding the first two letter code, and press return.
4. A two letter code will appear at the top left of your screen. If this code matches the one in the magazine, carry on and type the next line. Note, the code will not match if you use abbreviations. If you prefer to use abbreviations, LIST the line you have just typed, move the cursor to that line and press RETURN. The code should now match.
5. If the code does not match, use the editing keys to correct the line and press RETURN again. Repeat if necessary until the codes match.
6. To check a line that you have already typed, LIST the line, place the cursor on that line and press RETURN.
7. When you have finished a listing, just SAVE or CSAVE it in the normal way.

You can type in a program without using TYPO 3 and then check it by SAVEing or CSAVEing a copy of the program, running TYPO 3 and then LOADing or CLOADing your program and proceeding as in step 6 above.

Always SAVE or CSAVE a program before running it and always use TYPO 3 before telling us that a program will not run.

HOW TO TYPE IN THE LISTINGS

AND GET THEM RIGHT FIRST TIME!

OUR UNIQUE LINE BY LINE CHECKER WORKS ON ALL ATARI XL/XE and earlier 8-bit machines

```
BN 10 REM TYPO III by Alec Benson June 19
   85
DE 20 REM A proofreader for ANTIC and PAG
   E 6
SG 100 GRAPHICS 0
WG 110 FOR I=1536 TO 1791:READ A:CK=CK+A:
   POKE I,A:NEXT I
CG 120 IF CK<>30765 THEN ? "Error in DATA
    statements - Check Typing":END
YM 130 A=USR(1536)
VT 140 ? :? "TYPO III is up and running":
   NEW
MA 1000 DATA 104,160,0,185,26,3,201,69
HG 1010 DATA 240,8,200,200,200,192,36,208
QB 1020 DATA 242,96,200,169,79,153,26,3
RK 1030 DATA 200,169,6,153,26,3,162,0
RR 1040 DATA 189,0,228,157,79,6,232,224
TO 1050 DATA 15,208,245,169,93,141,83,6
KC 1060 DATA 169,6,141,84,6,173,4,228
EU 1070 DATA 105,0,141,95,6,173,5,228
BK 1080 DATA 105,0,141,96,6,169,0,162
KK 1090 DATA 3,149,203,202,16,251,96,0
ZR 1100 DATA 0,0,0,0,0,0,0,0
LD 1110 DATA 0,0,0,0,0,0,32,94
JM 1120 DATA 6,8,72,201,155,240,55,230
TV 1130 DATA 203,133,209,138,72,169,0,133
TW 1140 DATA 208,162,8,10,38,208,6,209
MF 1150 DATA 144,7,24,101,203,144,2,230
RL 1160 DATA 208,202,208,239,133,207,24,1
   65
TM 1170 DATA 204,101,207,133,204,165,205,
   101
AW 1180 DATA 208,133,205,165,206,105,0,13
   3
XH 1190 DATA 206,104,170,104,40,96,138,72
NR 1200 DATA 152,72,162,0,134,207,134,208
GF 1210 DATA 160,24,6,204,38,205,38,206
EA 1220 DATA 38,207,38,208,56,165,207,233
TM 1230 DATA 164,170,165,208,233,2,144,4
SK 1240 DATA 134,207,133,208,136,208,227,
   162
CB 1250 DATA 8,165,207,133,204,165,208,6
XN 1260 DATA 204,42,201,26,144,4,233,26
MB 1270 DATA 230,204,202,208,242,133,205,
   169
BC 1280 DATA 128,145,88,200,192,40,208,24
   9
WV 1290 DATA 165,204,105,160,160,3,145,88
QA 1300 DATA 165,205,24,105,161,200,145,8
   8
MQ 1310 DATA 32,69,6,104,168,76,153,6
```

JUNGLE HUNT

How many of you wish that they had a simple game that they could actually get near to completing? Whether for your own ageing reactions or a young child's play, JUNGLE HUNT could be the game you're looking for.

Savage cannibals have kidnapped your darling, and you must rescue her before they turn her into their latest take away meal. Swinging from rope to rope and braving the underwater depths, you must rescue her before their cooking pot is ready for the final ingredient. Fail, and they may well have taht extra ingredient for supper.

So goes the story of this game that was actually copyrighted in 1987. I remember first playing it on my ATARI 2600 (about 6 years ago), and when I saw that Micro Discount had it in stock for my XL/XE, I had to get another copy. The action starts off in a jungle where all you see in front of you is a vine that you feel you just have to jump to. Pressing the fire button will make you do this and you will then see another vine, swinging in a different pattern. This will carry on for about another 15-20 vines when you will get to the next level, but don't expect this simple sounding task to be easy as a small error of judgement will send you crashing down to the jungle below.

On the next level you will find yourself swimming through the forest river but watch out as crocodiles are common and murky water can push you straight into their waiting jaws. If you should find a crocodile getting too close for comfort, a quick stab with your knife should do the trick, but do not rely on this as the success rate isn't very high. You will also need to keep an eye on your air gauge and come up for air whenever it gets a bit low. Should you get past this level, you will find yourself running along and dodging boulders by either jumping or ducking their bounces. This level is probably the hardest as I can usually get to it but die while trying to get past it.

At the final level you will be confronted with two of the cannibals who you must jump over to reach your sweetheart. At this point you must jump and grab her at the right time or fall into the cooking pot yourself.

Although this game is often thought of as a game for young children, it has to be said that it is also quite a challenge for adults, especially on the harder skill levels. Even on the easiest skill level, I often can't complete the third level, which shows how challenging it really is. Alright, the graphics are very simple, and the sound consists only of little bleepy tunes. The game however, is great fun to play, and it should be considered a definite purchase for anyone with young children.

Don't expect flashy visuals or sounds if you decide to buy this game, but do expect a game that your children will love and you will probably find yourself playing more often than you would care to admit.

Title:	***JUNGLE HUNT***
Supplier:	***Micro Discount***
Format:	***ROM***
Price:	***£5.00***
Reviewer:	***Kevin Cooke***

MARIO BROS

Many of you may have seen the latest Mario games on the Nintendo consoles, and some of you may even (sin of sins) own one of these consoles yourself. But how many of you know that the original Mario Bros. game is available for the Atari? Probably not many of you, the reason being that it has only recently appeared in the UK thanks to Micro Discount.

In case you don't know (or have just come back from a decade on Mars!), Mario and Luigi are a pair of plumbers whose antics are set in a plumbing system. Their task is to kill the various nasties that are preventing them from taking a bath (what I want to know is where they intend taking it!).

These creatures can only be disposed of by jumping up and thumping the ground directly beneath them, and then giving them a good kick to knock them out of the plumbing. Some of the later nasties may require more than one thump before they can be killed though, and as the levels get higher, you can bet that you'll be introduced to more and more nasties. The easiest to kill are the SHELLCREEPERS who only require one thump, but the more difficult FIGHTERFLYS will hop around making it more difficult to hit them. Another nasty to watch out for is the fireball who may spin about the level to hinder your progress even more.

One helpful feature is the "pow" block that you can hit, which will act as if you had just given all of the nasties on the floor a punch. This can only be used three times though, so use it wisely. After completing every few levels, you are given a chance to collect all of the coins on the screen before the timer at the top runs out. Completing this will give you a nice little bonus before putting you onto the next level.

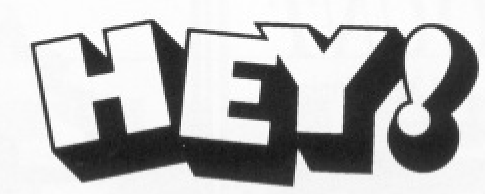
Alright, so the game's ideas are a little weird, but what is the actual gameplay like? Well, the graphics feel just slightly disappointing at first, but this isn't quite so noticeable as you get into the game. The sound is also a little basic (a cute tune on the games title screen and various other small sound effects in the game), but the gameplay makes up for this as it is pretty addictive, even if your character's speed is a bit frustrating. The two player option also makes the game better as it is a true two player game (i.e. you both play on the same playfield at once).

The main question of a game has to be "would I buy it again?". Well, it is a little expensive, but there again it is on ROM cartridge, so will load straight away without any problems. I probably would get it again, even if only to play a proper two player game. If you do buy it you can be sure of a challenging game, and something to come back to again and again.

Title:	***MARIO BROS.***
Publisher:	***Atari Corp.***
Supplier:	***Micro Discount***
Format:	***£10.00***
Price:	***ROM***
Reviewer:	***Kevin Cooke***

THE TIPSTER





THE

Hi there, it's me. No it's not the Tipster but the boss man himself. This issue I have decided to give The Tipster a rest, and to give you a little time to get some more hints, tips, cheats, maps and solutions coming in. Don't worry though because there is still a Tipster column, of sorts, this issue which may well turn out to be one of the most useful columns of all.

Over the past months several people have asked if we have published tips for certain games and, while I was sure we had, I couldn't remember where or when. So I was struck with the idea of putting together an index for The Tipster's column. I was surprised to discover that The Tipster actually began life in Issue 38 - that was back in June 1989, nearly four years ago! I was even more surprised to discover that, during that time The Tipster had published over 320 hints, tips, maps or solutions for no less than 224 different games! That's absolutely astonishing. Maybe one reason for the tips drying up in recent months is that we've already covered all of the games that most people are likely to come across!

Anyway, here is the promised index. It lists all of the games that have been covered and gives some further information if maps or complete solutions have been given. Of the rest, the hints or tips could range from a simple one line tip to a near complete expose, it was an impossible task to give more detail in the index. Most of the magazines in which these columns appeared are still available as back issues so you can order them if your collection is incomplete.

An index to games for which hints, tips, maps or solutions have been published in The Tipster column from Issue 38 up to Issue 66

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Wow, that's some list!

THE TIPSTER BOOK

Compiling this index has been an amazing insight into the depth of material that has been covered by The Tipster, material that would make a great reference book. So how about it? Would you be interested in buying The Tipster's Reference Book to Atari Games? (It might not be called that of course). To make it viable we would need to be able to sell at least 100 copies so we are asking you to write to us if you would be interested in buying a copy. If 20 people write in to say they are interested then we will go ahead with the ultimate hints and tips book for the Atari Classic. If we don't get that many letters, then I'm afraid that it is a no go.

It's up to you - do you want it?

BACK NEXT ISSUE

The Tipster will be back with you next issue and the hints and tips are already rolling in, but we need more. One great thing about the index in this issue is that you can check the games which have not been covered. ***Do you have a game that is not included here?*** *Can you give some hints or tips on how to play it? Maybe a map or a complete solution? Send it to us and we'll make other Atari users' lives more interesting. Start working on it now and get it to us quickly.*

Here's the address:

THE TIPSTER
NEW ATARI USER
P.O. BOX 54
STAFFORD
ST16 1DR

Come on, I'm not giving The Tipster more than one issue's rest!!

THE TIP YOU NEED FOR JUST £1!

That's right, many of the back issues are only £1 each - so check the index for the game you are stuck on and send away for the issue - you'll probably get a lot more besides!

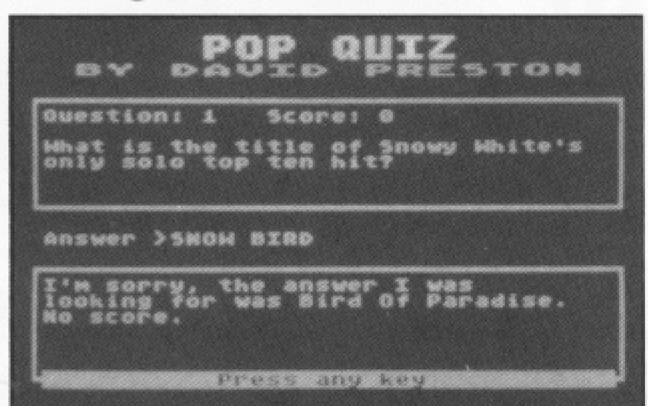
The address is the same as above - cheques, postal orders - even money - accepted!

A QUAD DISK BONUS!

FOUR great programs to enjoy! A quiz program, an adventure and TWO arcade games. Something for all the family!

POP QUIZ

by David Preston



So you think you know a thing or two about Pop Music? Try this pop quiz and you might well be left a little disillusioned with the extent of your knowledge!

Pop Quiz presents you with a series of questions based on pop music of the past 20 years or so in a number of rounds of 10 questions each. There are 50 points on offer each round but you'll have to be top notch to score highly. Unlike many games which present you with a choice of answers, this one requires you to type in your answer and, by applying a degree of artificial intelligence, will award you points even if you only get close to the correct answer. Once you have exhausted all the questions supplied you can add your own with a utility included.

Don't like pop music? Well, this program can easily be adapted to any type of quiz, you just can just delete the existing questions and add your own within the program. Give it a try for family fun or for a challenge down the local club or pub.

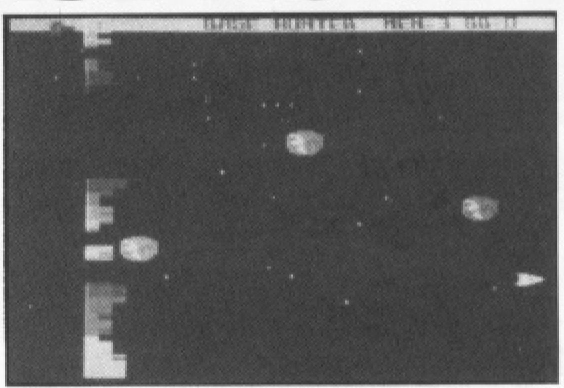
BREAKDOWN

by Peter Kirton

You are nice and warm inside your car, driving in terrible bleak conditions. You can see only about three metres ahead and the road is winding up a hill. You lose faith in your car as it starts to miss out and finally the motor stops altogether. It is raining and, in the distance to the right of your car, you can see a faint light. Your battery is flat and nothing works. Perhaps someone at the nearby house can provide a spare battery. Little do you expect the adventure in store before you regain the safety of your car.

This traditional text adventure comes from an Australian reader so you might need to know a thing or two about Aussie land as you try to find your way into the mysterious house. Then again, maybe not. One thing is sure, you will need all your wits about you as you try to solve the many puzzles which abound.

BASE HUNTER

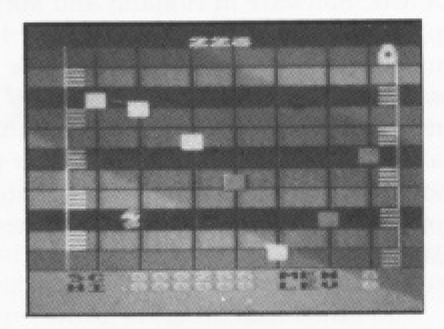


An enemy ship hides on the left side of the screen protected by a force field of pulsating rainbow patterns that circles before it in the vastness of space. Against a background of stars and alien planets your tiny craft has to penetrate the force field and destroy the enemy but the task proves harder than it seems.

The propulsion system on your craft is jammed so you can only control your position by constant manoeuvring, firing 'on the fly' at the force field and hoping that you will get a shot through. The gaps created also enable the enemy to shoot at you so you must be constantly aware of your position. Chances are that he will get you before you get him!

Base Hunter is a great little arcade game that is very challenging. If you can survive - and succeed - then you certainly have what it takes to be a great arcade player.

ELEVATOR REPAIRMAN



For a simple diversion try and get the elevator repair man up to the top of the building to fix those darn elevators that keep going up and down without stopping. Trouble is that he will have to climb the ladders to the top as he can't stop the lifts and the ladders are either side of the building. This means that he'll have to dodge the lifts on every floor and it ain't easy!

Elevator Repair Man is a simple game that is hard to play and will provide many an hour of challenge and enjoyment to players of all abilities.

This QUADRUPLE BONUS is available on the Issue 67 disk which disk subscribers will receive with their magazine. The disk is also available separately for just £2.95. For your copy of the above programs, plus all of the other programs from this issue ready to run, send your cheque or postal order for £2.95 to Page 6, P.O. Box 54, Stafford, ST16 1DR. Or you can order with Access or Visa by post or by telephoning 0785 213928.

SOUNDTRACKER 2.0

Les Ellingham turns off the CD to listen to sampled sound from the Atari Classic

One of the most beneficial effects that the ST and Amiga have had on the Atari 8-bit is in pushing the capabilities of the machine way beyond what was previously thought possible. Almost every aspect of the 8-bit has been pushed beyond previous boundaries in recent years and sound sampling is one such area.

Although there were some experiments in sound sampling in the early days, notably through the Parrot sampler, most users, and developers, felt that the limited memory of the 8-bit was capable only of a few seconds of sampled sound. Now, thanks to the borrowing of techniques pioneered on the ST, sampled sound is readily available on your Atari Classic although it still has some limitations.

Soundtracker is a sample player and converter developed by A.N.G. Software in Holland and Mirage of Poland which can play, or convert, 'MOD' files created on ST, Amiga or IBM machines. 'MOD' files are complete tunes that have been sampled and edited to give, usually, quite long pieces. They may not exactly resemble the originals as the samples are cut about and repeated to extend their playing time on limited memory machines (even 1 Megabyte on the ST is limited for proper sampling purposes), but they are generally recognisable.

WHAT'S IT FOR?

Sound modules are strange things that seem to serve no other purpose than to let an Atari owner exclaim 'Wow, I didn't know my computer could do that' or 'Look how great my computer is'. I cannot figure out what else a couple of minutes of sampled music does. It surely can't be for listening pleasure as a CD, cassette or even a humble transistor radio can knock spots off any sampled music available on a home computer. Am I missing something?

As far as the Atari Classic goes, the pride in hearing a very humble computer (in memory terms) knock out several minutes of properly sampled sound is indeed justified and Soundtracker is a good tool to impress your mates with. The first time you hear it, you will be amazed but after that the thrill quickly fades. There is a certain excitement in seeking out more 'modules' to try and hear just how great your Atari is, but I'm not sure how long the interest will last.

QUALITY OF SOUND AND PRESENTATION

The quality of sound from Soundtracker is generally, but not always, very good, considering the memory limitations of the computer, but it can't be appreciated on paper, you just have to listen to it. Quality of presentation is another matter.

Soundtracker is presented in full colour 'wrap around the disk' packaging which is fine given the limited market nowadays but a little more thought could have been given to the instructions. Seeing as the program does nothing more than play or convert sound samples you might think that very little instruction is needed, and so do the authors. Most of what you need is there but it is so annoying when simple instructions are omitted. The disk boots up to an introduction screen which just hangs there, nothing tells you that you have to press START. You are then presented with a simple choice of three options: Play samples, or covert MOD files in either 64k or 128k. You select option 1 and a very small menu appears in the middle of the screen with a one line instruction stating 'ESC - menu SPACE for Directory'. You press the space bar and ... nothing happens. Nowhere does it tell you that the MOD files are on the back of the disk. Once you have flipped the disk and pressed the space bar again a choice of three modules appears, one of which you can select and load by using the cursor keys and Return.

Your choice on the main disk is JMJ, FLETCH or ALF. No further information is given so you select one hoping that you will learn more when it loads. The sample loads in and is ready to play but you still don't know what tune you are going to hear, maybe the graphics will help? No luck as the graphics consist only of a sort of vertical oscilloscope that throbs in time with the music. To be honest you are lucky to get any graphics at all given the fact that almost all the memory is required for processing the sample, but it would still be nice to know what tune you are supposed to be listening to, if only to judge how good it should be.

Maybe you think this is just nit-picking but it would have been so easy to give some information on the instruction sheet. Even the names of the tunes would help but the whole pack-

SEND A CONTRIBUTION!

Remember it's your contributions that keep New Atari User alive. Whether it's a set of mini programs like those in previous issues or a comprehensive technical article, or an arcade game we want to be able to give other Atari users the opportunity to enjoy your work. Look out your programs, polish them up and send them in!

age would have much more appeal if it gave details of what the samples were, where they came from and how they were processed. Simple details like this add a degree of professionalism to commercial software but are, sadly, all too often missing nowadays.

MORE SAMPLES

Once you have listened to the three samples provided on the program disk you can purchase additional MOD disks and three are available so far. Each of these is double sided but my criticisms of the lack of information provided with the main program apply doubly so with the extra modules.

With these data disks you get a photocopied sheet of packaging to which the disk envelope is stuck and no instructions or information other than 'For use with Soundtracker version 2 only!!!' The back of the package even has the words PD Software covered by a sticker saying ©1993 FM Software! I know that packaging costs money, but a little thought and care costs nothing and it would be so easy present these 'commercial' offerings in a more professional way.

The Atari Classic versions of MOD files are 'MD8' files and on MD8 files 1 you get six modules with no information at all, not even the filenames which can only be obtained from DOS or the Soundtracker menu. Some names can be worked out like 'ANGELDUS' or 'MOONLIGH' but what on earth is '033'? I played it and I still haven't got a clue! MD8 files 2 gives you another six files and MD8 files 3 gives you seven more. The same criticisms apply to these, what is 'PUM' or 'APC'?

I would love to know what these various samples are, where they came from, how they were created but I am left guessing. I suspect that the publishers don't know themselves having merely downloaded them from a bulletin board and run them through the converter.

The quality varies from sample to sample, presumably due to the equipment and care taken in sampling the original. The shorter files are of good quality but some longer files like the mysterious '033' sound rather like a badly tuned radio.

STILL WORTHWHILE?

Many of the comments in this review have been quite negative but, I believe, rightly so. A commercial offering should have a degree of care and attention paid to it. There is nothing wrong with the Soundtracker program itself, it does exactly what it is supposed to, but it is a 'bare bones' program that could be greatly enhanced with some slick presentation.

Is it worth buying? Well, if you are fascinated by the prospect of hearing sampled sound on your humble Atari Classic then Soundtracker cannot be faulted. If you want more, then the module disks are essential unless you have access to an ST or Amiga with the ability to port files across to your Atari. If you have you can convert files yourself for free.

If you love your Atari to bits then you might well want to hear what the little fellow can do when the sound chip is pushed to the limits. Expect to be amazed but don't expect to come back time and time again like you would with a good game. Good as it is, a budget CD will beat sampled computer sound any day - and that goes for the ST and the Amiga too!

***SOUNDTRACKER 2.0** is available from Micro Discount at £6.95 or direct from A.N.G. Micro Discount can also supply you with the additional module disks*

SOFTWARE CLASSICS

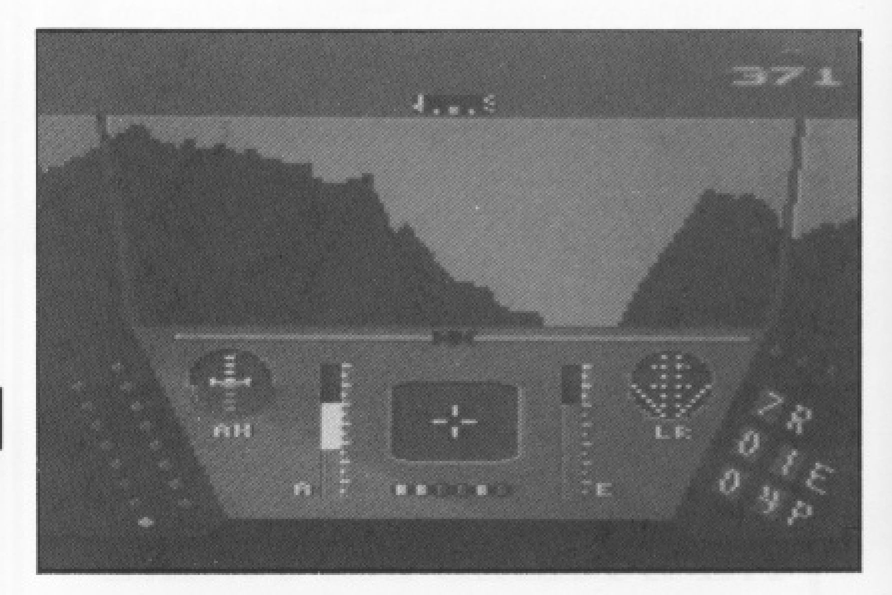
Much Classic software has now disappeared but Mark Stinson concentrates on the classics of Atari software that have one vital difference - they are still available!

RESCUE ON FRACTALUS

Rescue on Fractalus is probably the most famous game released on the Atari Classic known to, if not owned by, thousands of Atarians. Many Classic owners would vote this one to be *the* game on the Atari 8-bit, a sentiment I agree with completely.

Rescue on Fractalus was produced by Lucasfilm Games, and was originally released in the mid 1980's. I bought the cassette version when it was first released and spent many, many hours glued to my joystick. The game is now available on ROM from the Page 6 Accessory Shop. I was always happy to wait the long load time for this game, but now I have the ROM version it is pretty well in constant use.

The game is set amidst a life and death struggle which is raging through the galaxy. The hostile Jaggi race are threatening the future security and peace of the entire galaxy. The threat has now become critical as the Jaggi have dug in on the inhospitable planet known as Fractalus. Ethercorps pilots were holding their own against the Jaggi, but since the digging in on Fractalus, large numbers of pilots have been taken out by the enemy. It is our job to take lightly armed rescue vessels



Rescue on Fractalus is regarded by many as the best Atari game ever!

down to the planet surface and rescue the downed pilots.

A mother ship takes air pilots to within booster range of the planet's surface, but from the moment we enter the planet's atmosphere we are on our own. The mission is very difficult, and very dangerous. The Jaggi have installed gun emplacements on mountain tops. Flying in the formidable terrain of Fractalus is difficult enough, but then coping with the Jaggi defences makes the most seasoned of pilots easy prey. On top of this there are programmed saucers which lock on to ships and can inflict serious damage if not destroyed before impact. Rescue on Fractalus is a real test of your skills.

Once play is underway you find yourself in the cockpit, with a control panel and viewscreen above. The viewscreen presents a panoramic view of the planet as the craft is guided by the pilot. There are a few game controls to learn, though thankfully not many. These are for thrust, boosters, weapons, systems, landing, and air locks. There is also a visual read out for a number of functions such as altitude, artificial horizon, compass, gun sights, shields, long range scanner, pilot range indicator, energy level, wing clearance, and a targeting scope. The targeting scope is particularly useful for aligning the ship for attack on targets before they are in visual range.

The game offers a great many levels of mission difficulty. The selected level affects the number of pilots to rescue, and whether or not night flight will be necessary. Once you reach or select level 16 you have to contend with both day and night flight, as the planet rotates so fast that it only has nine minute days. Coping with the mission in complete darkness is extremely difficult, and must be completed using instruments.

You must use your long range scanners to locate ships which have crashed on the planet surface. These usually contain stranded pilots. Try to destroy any gun emplacements nearby and then land within a short range of the stranded ship. If you do not destroy enemy guns they can lock on to you while you are grounded and unable to defend yourself. All being well you will have landed within pilot range of the stranded ship, and you then turn off your systems. This alerts the stranded pilot to your presence and he or she will make their way to you. This is where the programmers finishing touches make this game a classic. You watch as a little dot in the distance gets bigger and bigger, until a pilot can be seen running towards you. Once the pilot arrives he or she knocks on the air lock door. You should now open the air lock to let the pilot on board. If you don't, the knocking continues but slows as the

pilot dies gradually in the cyanitric acid atmosphere! If you turn on your systems inadvertently you can also fry the pilot instantly. Be warned, some ships contain Jaggi. I nearly died with fright when instead of the usual knocking of the pilot, a huge and very ugly alien appeared outside the viewscreen and started to smash his way in. Only one thing to do, fry him!

There is too much in this game for me to do justice to in this review, but rest assured, this is a classic if there ever was one. The programmers have put real effort into this game, and it shows. The game is simply of the very best quality, and I cannot find any single reason for complaint. The outcome of the programmers attention to detail allows the game to pass the ultimate test ... this game is addiction at its highest. If you don't own it, you are missing a true classic.

SPACE WARS

Space Wars is a budget offering from Byte Back, a software publisher that released a number of good quality budget games before going the way of most other Classic supporters.

The game is based on the usual 'blast em first and worry later' philosophy, a point which is acknowledged on the inlay, albeit a little tongue in cheek. In fact, the whole scenario for the game is set out in this fashion; the inlay opening with 'Out in the dark depths of space lurked a race of beings so unspeakably nasty and unsociable, they wouldn't even talk to each other. Their whole society was based on passing notes around and using computers to calculate who had been the nastiest that day. Games were out'. The scenario goes on to explain that after an ambassador from Earth was caught playing a computer game he was beheaded and war declared.

In the game you control one powerful war ship, and only one. Once you have been destroyed that's it, no second or third ship to continue with. Instead of three ships you get a shield which can (fortunately) withstand a fair battering before leaving you completely unprotected.

After booting the cassette you are sent to face the first wave of nasties, shield intact and trigger finger at the ready. Alien ships or bases drop down the screen from above as the pace starts off frantic and gets worse! These nasties drop down at you, drop off the screen and sometimes come back for a second shot from behind. Thoroughly nasty these aliens (Regens) are! If you are lucky enough to keep your shields and ship intact through the onslaught you zoom up the screen through a 'wave completed' banner. The next stage is an asteroid belt which you have to navigate through each time you successfully complete a level. From here on in the nasties get nastier, and the 'Pac-Man thumb' threatens to end your game. No softies here please, this one is tough.

The game does differ slightly from many other shoot-em-ups in that some aliens contain special prizes. These are usually bonus points, but some can affect the game. In this respect the game is similar to Arkanoid. For example, some aliens contain a 'slow' activator, making other aliens easier to kill.

The final verdict is that this may be similar to other games you have, but it is still a worthwhile addition to any arcade collection, especially at the price. It is also Transdiskable: XE Menu System, Standard tape read, 2 stages.

TRIVIAL PURSUIT

The board game, Trivial Pursuit, is surely known to everybody. It has become the favourite of many people, both for general family fun and for entertaining guests. It had to be only a matter of time before a computer house took the basic concept of the game and ported it to computer. Domark took the honours, and the disk version for the Atari Classic was the result. All credit must go to Domark for producing an excellent game which can give hours of amusement.

The basic game is no different to the board game, so those of you that have played Trivial Pursuit will soon adapt to its computer equivalent. For those of you that haven't played the game, a brief explanation is in order. You are presented with a board of different coloured locations, including a central hub and six outer controlling sections. You throw a die (or a dart on the computer version) and select an appropriate square to move to. To move on you must answer a subject question determined by the colour of the square you are on (unless you land on a 'free throw'). The object of the game is to visit each of the six special squares and answer a question correctly, then return to the hub and answer the final question to win.

In my opinion, the computer version surpasses the board game without doubt. The computer allows much greater flexibility in play by use of graphics and music. For example, some questions in the computer game involve naming a piece of music played by the computer, or identifying a country/object displayed graphically on screen. Also available are instant statistics for current state of play, and even a graphical representation of the ratios of questions answered correctly by each player. A masterpiece of programming brings you an eminently playable game which can be enjoyed by the whole family.

Special attention to detail on the computer version adds substantially to the atmosphere of the game. The question Master is a little animated man called TP, who walks from the view of the board to his study to ask the questions. If you take too long to answer the question put by TP he gets a little impatient and starts to tap his foot! If he asks a music question, he walks over to his stereo and plays it; you can even see a mini graphic equaliser at work! Questions involving a graphic display are shown on a portable movie screen, and game length is measured by a lit candle in TP's study!

The game has to be seen to be believed and is a tribute to its programmers, who produced such a high quality piece of work. I have absolutely no hesitation in recommending this one - its brilliant.

REVIEWED THIS ISSUE

RESCUE ON FRACTALUS	SPACE WARS	TRIVIAL PURSUIT
Publisher: Atari	Publisher: Byte Back	Publisher: Domark
Price: £7.95	Price: £1.95	Price: £2.95
ROM only	Cassette only	Disk only

All these titles are currently available from the PAGE 6 ACCESSORY SHOP and some may be available from other advertisers

reviewed by Mark Stinson

ADDING NEW COMMAN

TO ATARI

If you are fascinated by the additional commands available in Turbo Basic, you might like to know whether you can extend Atari Basic yourself. Well, Len Golding knows how to do it and shares the secrets with you

Atari Basic is a masterpiece of compactness, but it lacks several useful commands. There's no Renumber, Autonumber or Delete, for example, and no direct access to DOS utilities without loading the entire DUP.SYS package. You can, of course, write your own machine code routines to add a few of these features, but they would normally need to be accessed through the USR function - a rather cumbersome and error-prone technique.

Wouldn't it be nice to emulate commercial toolkit programs, and just type REN or DEL or DIR whenever you want one of the new routines? The problem is, of course, that Basic will usually give you ERROR 17 if you try to type any word which is not in its vocabulary. And Basic lives in ROM, so you can't alter it in any way. So how is it possible to insert new commands?

To understand the answer, you'll need to know a fair amount about machine code, and quite a bit about the Atari's operating system, so the technique is not for beginners. Also, it's not really suitable for cassette users, because of the inconvenience of having to load a lengthy autoboot tape before you can do any programming. But for the growing army of machine-code programmers with disk drives, here's how to add your own direct-mode commands to Atari Basic.

SNEAKING PAST BASIC

First, how can we sneak a word like DIR past Basic, without triggering the error message? The answer is that we write a routine which intercepts the command before Basic sees it, executes our new command, then changes the command word into a nice straightforward REM before handing it on. This cons Basic into thinking that you've just typed "REM" and hit Return, so it obediently prints "READY" and forgets the whole thing, never suspecting what's been going on behind its back.

Intercepting the command is a bit tricky, since we have to modify the Display Editor. This is a "device handler" in the operating system, whose function is to control data transfers between keyboard and screen. It's in ROM, so we can't alter it directly, but it can be copied into RAM, where modifications are easy to make.

Every device handler has a table of pointers, called a "vector table". This tells it where to find the various routines which it might need - routines such as Open, Close, Get characters, Put characters and so on. Another table, called HATABS, holds the addresses of all the vector tables. Every time a handler routine is called, the operating system first examines HATABS to find the appropriate vector table, then examines that vector table to locate the specific routine it needs.

Whenever you press RETURN, the Operating System calls the Editor handler via HATABS, looks to see which line the cursor is on, then uses the Editor's GET CHARACTERS routine to copy the whole of that logical line from the screen into a buffer. Basic then examines the buffer to discover what you've typed, sorts through its vocabulary to find a matching word or words and takes appropriate action.

To intercept this process, we must first write a new GET CHARACTERS routine, and store it safely somewhere in RAM. Then we copy the Editor's vector table from ROM into RAM, where we can change it easily. The third address in this vector table points to the Editor's normal GET CHARACTERS routine, and we alter this so that it now points to the new routine we've written. Finally we change HATABS (which is already in RAM) so that every time the Editor is called, it jumps to our new vector table rather than the original ROM one.

The new routines are protected by changing the MEMLO pointer, to reserve space at the low end of user RAM. This ensures that our routines will always occupy the same area regardless of the host computer's memory size, so we can use

ANDS

RI BASIC

Source Code Listing overleaf ☞

non-relocatable machine code. Typing NEW won't erase it, and we can easily make it immune to RESET.

A READY WRITTEN ROUTINE

Now take a look at the source listing. Everything from line 180 to line 700 - except for the JSR GODOS at line 390 - is executed during power-up. The COLDST section traps the RESET routine and copies the Editor's vector table from ROM into RAM, at a place we've called NEWTAB.

Everything from WARMST to line 700 is executed again whenever you press RESET. It starts by doing the normal DOS initialisation, then changes the screen border colour, so that you get a "full screen" effect. This is a convenient way of reminding you that the new routines are installed and ready for action. The rest of WARMST ensures that various pointers stay as you want them, despite the RESET routine. The HATABS entry is altered at line 520, and the GET CHARACTERS pointer inside our new vector table is changed at line 570.

Whenever a key is pressed, the OS jumps through HATABS to NEWTAB, and thence to our new GET CHARACTERS routine at line 860. This starts by executing the original GET CHARACTERS routine in ROM, then checks whether it was the Return key which set things moving. If so, ENDLINE saves all the values which will need to be restored when control is eventually handed back to Basic, then SETEOL uses subroutine HUNT to see whether the text buffer contains one of our new commands. If not, it lets Basic have the unchanged line for processing as usual.

If HUNT finds the command in COMTBL (line 1390), it stores its address in a page zero pointer (COMPTR). Lines 1090 to 1140 force this address into the operand of JSR EXECUTE, so that line 1170 produces a JSR to the routine which implements that particular command.

ERASE (line 1190) turns the text in LBUFF into a full stop - Basic's abbreviation for REM - followed by a carriage return. Then all flags and registers are restored to their original values, and the simulated REM statement is passed to Basic for processing. This results in the normal "READY" message.

All our new commands are held in a table starting at line 1390. Entries can vary in length, but they all start with the two-byte address of their corresponding routine. This is followed by the command name in ASCII code, with the last letter typed in inverse to indicate end-of-entry. You can easily add new command names of your own, but the table must end with 0, and line 1560 puts three in for good measure.

At present all commands except RUN, DOS and DIR jump straight to RTS instructions. You won't get an error message if you type any of these, but of course nothing will happen until you insert appropriate routines.

The DIR command - line 1890 - illustrates the kind of routine you will need to write. It starts by checking that the next non-blank character after the command "DIR" is a carriage return. Anything else means that there's a syntax error, so the routine exits via DIRDN, storing an error number at the address labelled ERRNUM (line 740).

If the command is acceptable, DIR first closes channel 1, then re-opens it to read the directory from Disk 1. Since we've asked it to search for "D:*.*" (line 2400), all records in the directory will be printed, along with the "free sectors" figure.

The RTS at line 2320 sends us back to ERASE (line 1190), where the text buffer is changed to simulate a REM statement, then Basic is allowed to take control

AUGMENTING EXISTING COMMANDS

RUN and DOS illustrate a different kind of command. These words already exist in Basic's vocabulary, so we're just augmenting their normal routines. RUNGO (line 1690) simply restores the default border colour, and DOSGO (line 1760) restores default values for DOSINI and the Editor vector table.

But in both these cases Basic must now carry on processing the command, so we can't do an RTS to ERASE. Instead, two PLA instructions remove the return address from the processor stack, then JMP HANDBACK gives control to Basic without affecting the text buffer. This means that Basic will receive the

continued on page 37

Adding Commands to Atari Basic

```
10 CIOV=$E456
20 COLOR4=$2C8
30 COMPTR=$CB
40 DOSINI=$0C
50 EDITRV=$E400
60 EVEC=$321
70 ICAUX1=$34A
80 ICBAL=$344
90 ICBLL=$348
0100 ICCOM=$342
0110 LBUFF=$580
0120 LOMEM=$80
0130 MEMLO=$2E7
0140 ;
0150  X=$1E00
0160 ;
0170 COLDST
0180  LDA DOSINI             Force old DOSINI vector
0190  STA WARMST+1           into operand of
0200  LDA DOSINI+1           JSR GODOS below
0210  STA WARMST+2
0220  LDA #WARMST&255        Change DOSINI to trap
0230  STA DOSINI             the RESET routine
0240  LDA #WARMST/256
0250  STA DOSINI+1
0260  LDA EVEC               Store old Editor vector
0270  STA OLDEVEC
0280  LDA EVEC+1
0290  STA OLDEVEC+1
0300  LDX #0
0310 COPYVTAB
0320  LDA EDITRV,X           Copy Editor's entire
0330  STA NEWTAB,X           vector table into NEWTAB
0340  INX
0350  CPX #16
0360  BNE COPYVTAB
0370  JMP WMST2
0380 WARMST
0390  JSR GODOS              Do normal DOS initialisation first
0400 WMST2
0410  LDA #148
0420  STA $2C8
0430  LDA #FINISH&255        Set LOMEM and MEMLO pointers
0440  STA LOMEM
0450  STA MEMLO
0460  LDA #FINISH/256
0470  STA LOMEM+1
0480  STA MEMLO+1
0490  LDA #0
0500  STA LBUFLN             Zero the buffer length counter
0510 STHTABV
0520  LDA #NEWTAB&255        Change the Editor's entry in HATABS
0530  STA EVEC               so that it points to our new handler
0540  LDA #NEWTAB/256        table at NEWTAB
0550  STA EVEC+1
0560 SGTBYTE
0570  LDA #NEWCODE-1&255     Change the GETBYTE vector to point
0580  STA NEWTAB+4           to our new routine
0590  LDA #NEWCODE-1/256
0600  STA NEWTAB+5
0610 RSGBYTE
0620  LDA EDITRV+4           Force the address of the original
0630  CLC                    GETBYTE routine into the operand of
0640  ADC #1                 JSR ORIGINAL below
0650  STA NEWCODE+1
0660  LDA EDITRV+5
0670  ADC #0
0680  STA NEWCODE+2
0690 GODOS
0700  RTS
0710 ;
0720 ;This block holds variables used in the program
0730 DBUFF X=X+20
0740 ERRNUM X=X+1
0750 INDEX1 X=X+1
0760 INDEX2 X=X+1
0770 LBUFLN X=X+1
0780 NEWTAB X=X+16
0790 NMEMLO X=X+2
0800 OFFSET X=X+1
0810 OLDEVEC X=X+2
0820 XSAVE X=X+1
0830 YSAVE X=X+1
0840 ;
0850 NEWCODE
0860  JSR ORIGINAL           Do normal GETBYTE routine first
0870  CMP #155               Was it a CR (ie the RETURN  key)
0880  BEQ ENDLINE
0890  INC LBUFLN             If not, add 1 to the LBUFF counter
0900  RTS                    and ignore everything else
0910 ENDLINE
0920  PHP                    Save all flags and register values
0930  STX XSAVE
0940  STY YSAVE
0950  CLD
0960  LDX LBUFLN             If length of LBUFF=0 then it was
0970  BEQ COMNTFND           a blank line, so ignore it
0980 SETEOL
```

Adding Commands to Atari Basic

```
0990  LDA #155              Insert a CR character to mark the
1000  STA LBUFF,X           end of the string in LBUFF
1010  LDX #0
1020  STX OFFSET
1030  JSR SKIPBLANK         If first non-blank character is a CR,
then
1040  BCS COMNTFND          it is a blank line, so ignore it
1050  LDY #COMTBL&255       Set up for the HUNT routine
1060  LDA #COMTBL/256
1070  JSR HUNT              Search COMTBL for the command
1080  BCS COMNTFND          If C flag set, it's not there
1090  LDY #0
1100  LDA (COMPTR),Y
1110  STA GOCOM+1           Force the address of the appropriate
1120  INY                   routine into the operand of JSR EXECUTE
1130  LDA (COMPTR),Y
1140  STA GOCOM+2
1150 ;
1160 GOCOM
1170  JSR EXECUTE           Do the new command
1180 ;
1190 ERASE
1200  LDA #'.               Turn the line into a REM statement
1210  LDX #0
1220  STA LBUFF,X           Zero the LBUFF length counter
1230  STX LBUFLN            ready for the next line
1240 HANDBACK
1250  LDY YSAVE             Restore initial flag and register values
1260  LDX XSAVE
1270  LDA #155              Send a CR
1280  PLP
1290 ;
1300 ORIGINAL
1310 EXECUTE
1320  RTS                   and return control to the Editor
1330 ;
1340 COMNTFND
1350  LDA #0                If it wasn't one of our new commands,
1360  STA LBUFLN
1370  JMP HANDBACK          then let the Editor have it
1380 ;
1390 COMTBL
1400 ;This table contains all your new commands: Address first, then
the command word itself.
1405 ;2-byte address of the routine (eg. ".WORD DIR"
1410 ;followed by a string of ASCII characters making up the command
word itself (eg "DIR")
1420  .WORD RUNGO
1430  .BYTE "RUN"
1440  .WORD DOSGO
1450  .BYTE "DOS"
1460  .WORD FIND
1470  .BYTE "FIND"
1480  .WORD DELETE
1490  .BYTE "DEL"
1500  .WORD RENUMBER
1510  .BYTE "REN"
1520  .WORD DUMP
1530  .BYTE "DUMP"
1540  .WORD DIR
1550  .BYTE "DIR"
1560  .BYTE 0,0,0
1570 ;
1580 ;Your new routines will go here. At present, all the commands
1590 ;except RUN, DOS and DIR point to an RTS instruction.
1600 RENUMBER
1610  RTS
1620 FIND
1630  RTS
1640 DELETE
1650  RTS
1660 DUMP
1670  RTS
1680 ;
1690 RUNGO
1700  LDA #0                This routine just resets the
1710  STA COLOR4            default border colour,
1720  PLA                   then hands the command "RUN" back
1730  PLA                   to the Editor, for processing
1740  JMP COMNTFND
1750 ;
1760 DOSGO
1770  LDA WARMST+1          Calling DUP.SYS erases everything
1780  STA DOSINI            This routine restores default values
1790  LDA WARMST+2          for DOSINI and EVEC vectors before
1800  STA DOSINI+1          DUP.SYS is loaded
1810  LDA OLDEVEC
1820  STA EVEC
1830  LDA OLDEVEC+1
1840  STA EVEC+1
1850  PLA                   then hands the command DOS
1860  PLA                   to the Editor for processing
1870  JMP COMNTFND
1880 ;
1890 DIR
1900  JSR SKIPBLANK         Check that there is
```

Adding Commands to Atari Basic

```
1910  LDA LBUFF,X          nothing else on the
1920  CMP #155             text line except "DIR"
1930  BNE DIRDN
1940  JSR CLOSECH          Close D1
1950  BMI DIRDN            Branch on error
1960  LDX #16              Open D1
1970  LDA #3
1980  STA ICCOM,X
1990  LDA #6               to read directory
2000  STA ICAUX1,X
2010  LDA #FILENM&255      (all records)
2020  STA ICBAL,X
2030  LDA #FILENM/256
2040  STA ICBAL+1,X
2050  JSR CIOV
2060  BMI DIRDN            Branch on error
2070 NEXTREC
2080  LDX #16              Read each record in turn
2090  LDA #5
2100  STA ICCOM,X
2110  LDA #DBUFF&255       into our reseved buffer
2120  STA ICBAL,X
2130  STA ICBAL
2140  LDA #DBUFF/256
2150  STA ICBAL+1,X
2160  STA ICBAL+1
2170  LDA #20              Up to 20 bytes long
2180  STA ICBLL,X
2190  STA ICBLL
2200  JSR CIOV
2210  BMI DIRDN            Branch on error
2220 PRINTREC
2230  LDX #0               Print each directory
2240  LDA #9               entry in turn
2250  STA ICCOM
2260  JSR CIOV
2270  BPL NEXTREC
2280 DIRDN
2290  STY ERRNUM           Store any error number
2300  LDX #16              ($82 is end-of-records)
2310  JSR CLOSECH          Close D1
2320  RTS
2330 CLOSECH
2340  LDX #16
2350  LDA #$0C
2360  STA ICCOM,X
2370  JSR CIOV
2380  RTS
```

```
2390 FILENM
2400  .BYTE "D:*.*"
2410 ;
2420 SKIPBLANK
2430 ;Scans the text line on screen, and skips over any blank spaces.
2440 ;On entry, LBUFF contains the ATASCII line, and OFFSET points to
2450 ;the first character for checking
2460 ;
2470  LDX OFFSET
2480 SKBLP
2490  LDA LBUFF,X          Read character
2500  CMP #32              Is it a space?
2510  BNE VALFND
2520  INX                  If not, move on to next character
2530  BPL SKBLP
2540 ;
2550 VALFND
2560  STX OFFSET           X holds position, A holds value
2570  CMP #155             Is it a CR?
2580  BEQ CRET
2590  CLC                  If not, clear carry flag
2600  RTS                  and return
2610 ;
2620 CRET
2630  SEC                  If it'S a CR, then set Carry
2640  RTS
2650 ;Returns with OFFSET pointing to 1st valid character
2660 ;and A containing its ATASCII value
2670 ;
2680 HUNT
2690 ;This routine searches a specified table for a specified string.
2700 ;Last character of each table entry must have MSB on, and last
2710 ;entry in the table must be 0. On entry, LBUFF holds the source
2720 ;string; OFFSET points to the first character for comparison;
2730 ;A and Y hold table address (high,low).
2740  STA COMPTR+1         Store table address in a page 0 pointer
2750  STY COMPTR
2760  LDA #0
2770  STA INDEX1           Zero the counter
2780 COMP1
2790  LDX OFFSET           Make X and Y point to corresponding
2800  LDY #2               characters in LBUFF and the table
2810 COMP2
2820  LDA (COMPTR),Y       Read a character from the table
2830  BEQ NOGO             0 means end of table, so no joy
2840  BMI ENDCHR           MSB on means last character in this entry
2850  CMP LBUFF,X          Compare the two characters
2860  BNE NOTSAME
```

Adding Commands to Atari Basic

```
2870  INX                   If same, go check next character
2880  INY
2890  JMP COMP2
2900 ENDCHR
2910  AND #127              If MSB is on, turn it off
2920  CMP LBUFF,X           and check this last character
2930  BNE COMP3             Branch if not same
2940 SAME
2950  INX                   Now check to see if the string
2960  LDA LBUFF,X           in LBUFF has any more letters
2970  CMP #32               Accepts only a blank
2980  BEQ EQUAL
2990  CMP #155              or a CR to indicate end of string
3000  BNE COMP3
3010 EQUAL
3020  INY                   If match found, return with C clear
3030  STX OFFSET
3040  CLC
3050  RTS
3060 NOTSAME
3070  INY                   mismatch found, so skip over
3080  LDA (COMPTR),Y        rest of table entry
3090  BPL NOTSAME
3100 COMP3
3110  INY                   To get total length of table entry
3120  STY INDEX2
3130  LDA INDEX2            Get length of curent entry
3140  CLC
3150  ADC COMPTR            Update COMPTR by adding this length
3160  STA COMPTR            to the address of the current entry
3170  LDA COMPTR+1
3180  ADC #0
3190  STA COMPTR+1
3200  INC INDEX1            Add 1 to the counter
3210  JMP COMP1
3220 NOGO
3230  SEC                   If no match found,
3240  RTS                   return with C set
3250 ;
3260 ;If match found then C is clear; X=OFFSET=pointer to next
3270 ;character after source string; Y points to next character
3280 ;in table. COMPTR holds address of matching table entry;
3290 ;Index1 holds number of entry relative to 0
3300 ;If match not found, C is set and OFFSET is unchanged
3310 ;
3320 FINISH
3330  *=$2E0
3340  .WORD COLDST
```


command "RUN" or "DOS", as though nothing had intervened.

The subroutines SKIPBLANK and HUNT are explained in the source listing. They can be called from other parts of the program when extra commands are inserted, so you can use them easily for your own routines. Notice that we indicate success or failure of the routine by setting or clearing the "carry" flag. This is a useful trick, since it allows us to determine the follow-up action with just one instruction: BCC or BCS.

The entire machine code program must be loaded and initialised before Basic takes control, so the source listing is designed for assembly into an AUTORUN.SYS file. If you're using Atari's own Assembler Editor, the command will be: ASM,,#D:AUTORUN.SYS.

When the autorun file has been successfully loaded, the screen border will change colour and you can try typing any of the commands in COMTBL. You will see that no error messages appear, and Basic ignores most of the commands completely.

RUN will restore the black border, but the full-screen effect can be restored by pressing RESET. DIR will print the full disk directory on screen. Typing DOS will erase all the machine code routines, as their home is invaded by DUP.SYS. In this event, you will have to go through the power-up procedure again to re-enable your new commands.

Some Basic Notes on ... DISPLAY

A display list is a list of instructions to the ANTIC chip telling it how to show data on the screen. The ATARI has some pre-programmed display lists which are generated automatically when you give a graphics command. You can also set up your own display lists, or alter the ones that are there already.

The display list starts immediately above the memory area used for programming. You find it by PEEK(560)+256*PEEK(561). Different display lists use different amounts of memory. For instance, the Graphics 2 display list only takes up 24 bytes, while the GTIA display lists (Graphics 9 to 11) each use 202 bytes. The details are shown in Table 1.

So what kind of values do you get when you PEEK the display list locations? The numbers fall into different groups depending on the display list instruction:

Blank scan line instructions [Numbers 0, 16, 32, 48, 64, 80, 96, 112]: Blank scan lines are lines with no text. They are used, for example, for the border at the top of the screen and also to split up the screen display. An individual scan line is one pixel deep and is obtained by putting a 0 (zero) in the display list. You use the number 16 to get 2 scan lines, 32 for 3 scan lines and so on in multiples of 16 up to 112 for 8 scan lines. Eight blank scan lines equates to the height of a Graphics 0 character.

Display text instructions [Numbers 2, 3, 4, 5, 6, 7]: The number 2 is used for a Graphics 0 line, 6 for a Graphics 1 line and 7 for a Graphics 2 line. You need to redefine your character set to utilize the others: 4 and 5 are for Graphics 12 and 13 respectively and 3 is for a character set which is 10 scan lines high.

TABLE 1

NUMBER OF BYTES USED BY DIFFERENT DISPLAY LISTS

BYTES	GRAPHICS MODES
24	2 and 13
32	0
34	1, 3 and 12
54	4 and 5
94	6 and 7
174	14
176	8 and 15
202	9, 10 and 11

Display graphics instructions [Numbers 8, 9, 10, 11, 12, 13, 14, 15]: These numbers are used as follows: Numbers 8 to 11 are for Graphics 3 to 6 respectively; number 12 is for Graphics 14, number 13 is for Graphics 7, number 14 is for Graphics 15 and number 15 is for Graphics 8 to 11 inclusive.

Jump and Load Memory instructions [Numbers 1, 64, 65]: Load Memory Scan (LMS), indicated by the number 64, means load a memory address. The instruction is always followed by 2 other bytes, the 2nd and 3rd being the low and high bytes respectively of the memory location in question. JUMP, indicated by the number 1, means go to a particular location in memory, and it is always used in conjunction with an LMS instruction so that Antic knows where to jump to.

The text and graphics display instructions are summarised in Table 2. Incidentally, other display effects - such as scrolling and interrupts - are achieved by setting ("turning on") some of the high bits in the instruction bytes i.e.

Enable vertical scrolling:	Set bit 5 of the instruction (add 32)
Enable horizontal scrolling:	Set bit 4 of the instruction (add 16)
Enable an interrupt:	Set bit 7 of the instruction (add 128).

LOOKING AT A DISPLAY LIST

PROGRAM 1 asks you to input a Graphics number between 0 and 15 and then prints out the display list for that mode on the screen. If you try out a few different numbers you will see that they all more or less follow the same format:

First, 112, 112, 112: This means show 8 blank scan lines three times -i.e. 24 scan lines (the height of 3 Graphics 0 characters) in all.

Next, 3 numbers: These tell Antic what part of memory is to appear on the screen. The first number is a Load Memory Scan

LISTS

TABLE 2

DISPLAY TEXT/GRAPHICS INSTRUCTIONS

2	GRAPHICS 0
3	Not available in BASIC
4	Graphics 12
5	Graphics 13
6	Graphics 1
7	Graphics 2
8	Graphics 3
9	Graphics 4
10	Graphics 5
11	Graphics 6
12	Graphics 14
13	Graphics 7
14	Graphics 15
15	Graphics 8 to 11

```
WO 1 REM ******************************
BC 2 REM *     DISPLAY LIST VIEWER      *
GZ 3 REM *      by Ann O'Driscoll       *
SQ 4 REM * ---------------------------- *
LO 5 REM * NEW ATARI USER - APRIL '94 *
WT 6 REM ******************************
NM 7 REM
DR 100 DIM D(201):POKE 82,1:GRAPHICS 0:?
   "↓↓↓▶DISPLAY LIST INSTRUCTIONS":? "▶___
   ______________________________"
XB 110 ? "↓↓When you input a Graphics num
   ber the   computer will print its disp
   lay list"
GP 120 ? "on the screen and ask you to en
   ter      another number.  Input '99' to
    quit."
LQ 130 POSITION 1,22:? "
                          ":POSITION 1,22:? "
   Input Graphics number [0 - 15] ";
RG 140 TRAP 130:INPUT #16;ANS
DI 150 IF ANS=99 THEN CLR :GRAPHICS 0:END
IW 160 IF ANS<0 OR ANS>15 THEN 130
WS 199 REM --- FIND THE DISPLAY LIST
MQ 200 GRAPHICS ANS:DL=PEEK(560)+256*PEEK
   (561):C=0
US 210 D(C)=PEEK(DL+C):IF D(C)=65 THEN 23
   0
PH 220 C=C+1:GOTO 210
GS 230 FOR CC=1 TO 2:D(C+CC)=PEEK(DL+C+CC
   ):NEXT CC:F=C+2
OZ 299 REM --- SHOW THE DISPLAY LIST
HL 300 GRAPHICS 0:POKE 710,0:? "DISPLAY L
   IST FOR GRAPHICS ";ANS:? "____________
   ______________________________"
VW 320 FOR N=0 TO F:IF N/11=INT(N/11) AND
    N>10 THEN ?
PX 330 ? D(N);" ";:NEXT N:? :? "__________
   ____________________________________"
EB 340 POKE 764,255:? :GOTO 130
```

instruction (64) plus a display text/graphics instruction (2 or 4 to 15). The other two numbers point to the starting address of the screen data. This memory area is called "screen RAM" and it is located between the display list and the top of RAM.

Next, a series of the same number: These are the display text or graphics instructions.

Next, the numbers 66, 96 and 159: These are more instructions to Antic telling it what part of memory to show. This time we're dealing with the text window: 66 means Load Memory Scan (64) plus 1 mode 0 line (2). 96 and 159 are the low byte,

continued ☛

by

Ann O'Driscoll

high byte pointers to the start of text window screen memory, which starts at memory location 40800 (96 + 256*159) for all Graphics modes.

Next, the numbers 2, 2, 2: These are the remaining three text window (Graphics 0) instructions.

Finally, 3 more numbers: These direct Antic back to the beginning of the display list so that the process can be repeated for the next screen frame. The first number is always 65, comprising a Load Memory Scan (64) and a Jump (1) instruction. The other two are the start of the display list address in low, high byte order.

A few of the display lists are a little more complicated than this because they have a 3 byte LMS instruction somewhere around the middle. You can see this with Graphics 8 to 11 and with Graphics 15. This arises because these modes use a lot of memory - more than 4K - for their screen display. Antic must have a LMS instruction for every 4K of memory because it can't deal with more than this amount in one continuous block. Also, Graphics 9 to 11 don't have the "66, 96, 159, 2, 2, 2" sequence because these modes don't have text windows.

ALTERING A DISPLAY LIST

Display lists can be altered easily because they are located in RAM. All you have to do is POKE new instructions into the chosen display list locations. For instance,

```
10 GR. 0:DL=PEEK(560)+256*PEEK(561)
20 POKE DL+15,7
30 POKE DL+16,7
```

puts two lines of Graphics 2 text around the middle of a Graphics 0 screen. Generally speaking, you can mix graphics and text modes any way you want, although you should watch out for a few things.

First, the screen is only physically capable of showing 192 vertical scan lines of graphics/text at a time, so your new display list should reflect this. For instance, Graphics 0 characters are 8 scan lines high and you can fit 24 rows of them on the screen; Graphics 2 characters are 16 scan lines high, so you can only fit 12 rows into the same space. Table 3 gives details on scan lines used by different modes. Simply divide the scan lines into 192 to see how many rows of characters or graphics lines can be accommodated on the screen.

Secondly, different modes use different amounts of bytes per line and your screen display can get a bit confused if you replace 'high memory' lines with 'low memory' ones or vice versa. For example, the following listing replaces the second row of a Graphics 0 screen (40 bytes per line) with a row of Graphics 1 (20 bytes per line):

```
10 GR.0:DL=PEEK(560)+256*PEEK(561)
20 POKE DL+6,6
30 FOR N=0 TO 3:? "LINE ";N:NEXT N
```

If you RUN this you will see that the text gets displaced half way across the screen after the Graphics 1 row. This is because the screen display is still working in terms of 40 bytes per line. The usual solution is to put in compensating rows to bring the positioning back into sync. For instance, in this case a second 20 byte line, such as

```
25 POKE DL+7,6
```

returns the alignment to normal. Table 4 shows the bytes per line used by each of the Graphics modes.

TABLE 3

NUMBER OF SCAN LINES PER CHARACTER/BLOCK IN THE DIFFERENT GRAPHICS MODES

SCAN LINES	GRAPHICS MODES
16	2, 13
8	0, 1, 3, 12
4	4, 5
2	6, 7
1	8, 9, 10, 11, 14, 15

TABLE 4

BYTES PER LINE IN THE DIFFERENT GRAPHICS MODES

BYTES/ LINE	GRAPHICS MODES
10	3 and 4
20	1, 2, 5, 6, and 14
40	0, 7, 8, 9, 10, 11 12, 13 and 15

Thirdly, you must remember that the computer will continue to "think", and accept commands, in terms of the original screen display rather than the amended list. For instance, if you put a Graphics 2 line on a Graphics 0 screen, then you should use the normal PRINT command, rather than PRINT #6, to display text.

That just about covers the basics on display lists. The best way to figure out what you can do with them is to experiment. At the end of the day, even if you mess up the screen totally, just remember that the original display list address is restored when you change graphics mode - so simply type Graphics 0 and start again!

SCREEN RAM

A knowledge of screen RAM becomes useful as you delve deeper into display list modifications. For instance, if you put a text instruction on a graphics screen, you can use screen memory to display your message, as the normal PRINT commands don't show characters in the drawing modes. This is among the topics covered in my article in Issue 66 of New Atari User - check it out!

ARTEFAKT PRZODKOW



Not an easy one to pronounce, this - so it's just as well that Micro-Discount prefer to call it plain ARTEFACT instead! The game is one of MD's latest Polish acquisitions stemming from their exclusive distribution arrangement with Holland's A.N.G.

Artefact is an arcade adventure in the traditional mould, with the usual helping of objects to utilise, nasties to avoid and locations to explore. Acting out the prestigious role of Mark Graham - 'the Earth's greatest secret agent' - you engage upon a top-priority mission to recover a lost spaceship. To you will need to collect dozens of artefacts and determine exactly where they must be used, to enable your progression into new areas of the sprawling moon-base.

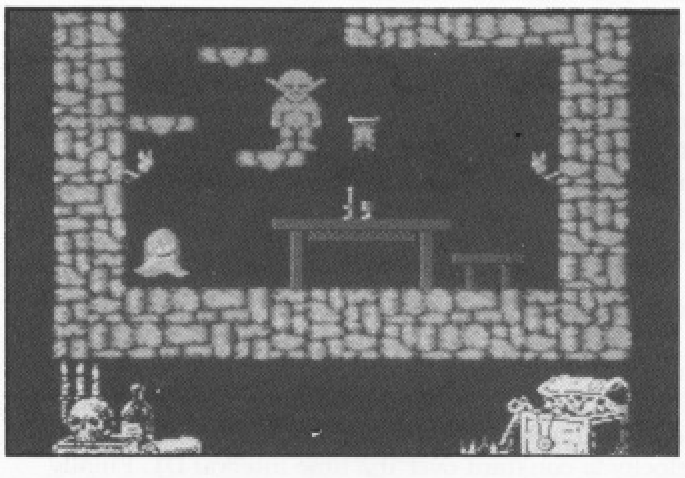
The scenes are drawn using high-resolution mono graphics with excellent use of shading and animation effects. Sound, however, is strangely subdued. Mr Graham - who is dressed as an astronaut-- is large, intricately detailed and well animated. He can walk in either direction, stoop to pick up artefacts and 'fly' by firing his jet-pack. The jet responds realistically and requires some practice to avoid over-shooting the intended target. Although there are literally dozens of objects scattered throughout the moonbase, you can only hold three items simultaneously. When you pick up an object, it's placed in one of three 'windows' below the main playfield. If all windows are full you must either exchange an existing object for the new one, or 'use' something at an appropriate location. For example, a key will open up a locked door, and poison can dispose of a nasty - but some of the problems aren't quite as obvious!

Occasionally you're asked to enter a security code. You must refer to the cardboard photocopy-unfriendly table of pass codes supplied with the game, and enter the four characters corresponding to hex digits displayed on-screen. The procedure is reasonably straightforward and must be a sensible anti-piracy measure - but mind you don't lose that cardboard!

It seems that when your mission is complete you are treated to a short 'film', though I've a feeling I may not sample this potential delight for some time.

Artefact is an enjoyable arcade adventure blessed with an outstanding graphical component. The asking price may be slightly higher than average, but the game itself will not disappoint.

Title:	***ARTEFAKT PRZODKOW***
Publisher:	***A.S.F.***
Supplier:	***Micro-Discount***
Format:	***Disk***
Price:	***£9.95***
Reviewer:	***Paul Rixon***



MIECZE VALDGIRA II

MIECZE VALDGIRA II (hereafter MV2) is, as you might have guessed, the sequel to Miecze Valdgira which was reviewed back in issue 65. Micro-Discount have obtained the successor title from Polish software house A.S.F. and have provided an English translation of the instruction booklet (the game itself contains Polish text). MV2 is supplied in a relatively lavish box which additionally holds a cardboard code table that's required as part of a copy protection system. When prompted, you have to enter an appropriate four character code from a selection of 255 possibilities.

We're told that King Aldir, who's well known to the kingdom of Helgoru, has discovered that a bloodthirsty knight named Zenon has stolen the 'magic eye of cyclops'. Zenon is using the power of this eye to invade the tranquil green land of Dale and, to restore peace, he must be stopped. The King has decided to track down Zenon, re-capture the eye and thereby free Dale from the horrors that might otherwise unfold. Your job in this arcade adventure is to manoeuvre the King through a variety of screens, collect objects that may be useful later on and endeavour to avoid nasties. When you come across something worth retaining, you can deposit it into one of three 'pockets'. Obviously you'll then need to find out where the item should be used.

Graphics are generally well done. Initially I was worried the brownish colouring of the first few rooms would set the standard for the game, but later scenes are much more pleasantly shaded. Detail is good and the various nasties are certainly not lacking animation. The main screen portion is bordered by high-resolution drawings of a treasure chest and other artefacts, together with a read-out of your remaining lives and current score. You can choose to have continuous musical accompaniment, or sound effects only if preferred.

MV2 is a competently programmed game but loses some playability through the lack of English screen text. You will need to write down your perception of the objects found (not always easy!) against the Polish descriptions, or simply use them by trial and error. Micro-Discount say they're going to provide additional help in due course. Hopefully this will be in the form of a translation sheet for all items, as this would improve the playability rating no-end.

Title:	***MIECZE VALDGIRA II***
Publisher:	***A.S.F.***
Supplier:	***Micro-Discount***
Format:	***Disk***
Price:	***£7.95***
Reviewer:	***Paul Rixon***

GRAVITY AND O

Learning a programming language is only one part of writing a successful program. Even if you are an expert in Atari Basic you will not be able to create programs if you don't understand the theory behind certain concepts. Here John Young explains how gravity can be simulated in your programs

This article is about using your Atari to simulate something from science, in this case the Law of Gravity. The program listed is written in standard Atari Basic, but runs quicker with Turbo Basic. It plots the path of a satellite orbiting the Earth. By changing the initial situation, it is possible to get a range of different trajectories.

The Law of Gravity was proposed by Isaac Newton as long ago as the seventeenth century and is, at first glance, simple: two point masses will attract each other with a force inversely proportional to the square of the distance between them. This means that if you move two masses twice as far apart, the attraction is quartered (i.e. divided by 2 squared). I am reluctant to put an equation in, as I'm sure it will put people off, but it simply means what I have just said in words, and the program I am going to introduce relies on it.

$$\text{Force} = -G*M1*M2/r^2$$

M1 and M2 are the masses (measured in kilograms) and r is the distance between them. G is what is known to us jargon junkies as a constant of proportionality, and it is just a number which tells us how big the forces are. The minus sign means the force is attractive.

The situation we are going to apply this Law to is a satellite orbiting the Earth. The Law also applies to everything else (actually this isn't quite true, but we'll let it pass), so there will be a force between two jam jars on your kitchen table, but this is so small compared with the forces between the earth and each jam jar that we don't notice.

The satellite thing is quite topical, as we can pretend it is the Hubble space telescope (well it was topical when this was written), but it could be the moon.

We need to know what happens to the satellite when the gravitational force acts on it, and we are indebted to Mr Newton again, because his Second Law of Motion is F=Ma (mass * acceleration). Rearranging this gives a=F/M. There is thus an acceleration on the satellite given by the force acting on it divided by its mass, the force being given by Newton's Law of Gravity above. Acceleration is just the rate of increase of velocity, but in a specific direction, which in this case is towards the Earth.

Because we have a satellite which has a velocity in a certain direction, and has a force on it, and hence an acceleration towards the Earth (which is likely to be a different direction: see diagram 1), we have to use x and y components of velocity and acceleration. Now, we pretend that the acceleration is constant over a small time interval (say DT seconds, where DT is a fraction). This means that the change in a component of velocity in a time DT is just the component of acceleration at that time multiplied by DT.

I shall now describe the program, which plots the path a satellite will take if placed above the Earth with a certain velocity (if still, the satellite will fall straight towards the Earth). The path will be in two dimensions only as, provided the satellite is not moving into or out of the screen to begin with, there is no force to make it do so.

Lines 20 to 80 set various constants used. These include the position and velocity of the satellite. Line 90 calls a subroutine to draw a disc to represent the Earth. The movement loop first uses the acceleration due to the force of gravity to change the velocity (lines 210 & 220), as described in the previous paragraph, and then changes the position (lines 230 & 240), pretending velocity is constant over the time interval DT. Finally the position is plotted onscreen and collision with the Earth is checked for.

The approximation of constant acceleration mentioned above can lead to problems. If the calculated path of the satellite is

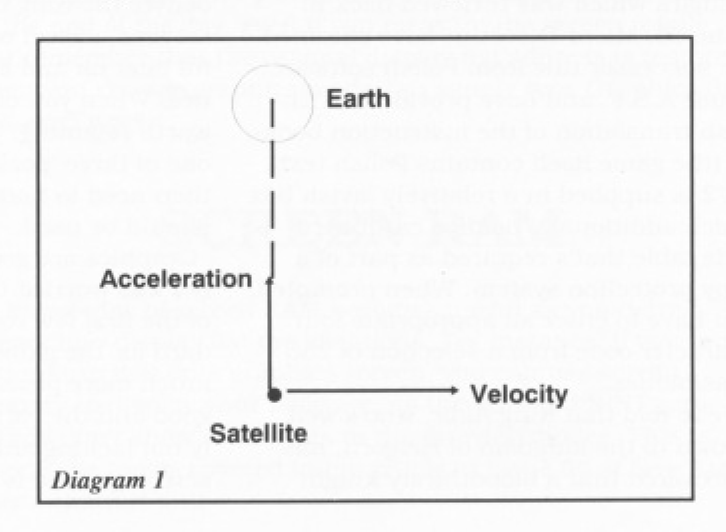


Diagram 1

RBITS

not smooth it is likely that this is not the true path, and the value of DT used needs to be reduced.

The box shows exactly how I got the formulae used in lines 210 and 220, but you can ignore this if you want.

As printed, the program places the satellite above the Earth, travelling parallel to the surface below with speed UX. This results in a very nearly circular orbit. Changing UX (line 60) changes the behaviour of the satellite significantly. Try the values 15, 6 and 5. For the latter two DT needs to be reduced to 0.2. In all cases the orbit is an ellipse, and the size and shape depends on UX. For the value 15 the ellipse is very large, and goes off the screen, giving error 3 (going off the other side gives error 141). When UX is 6, the orientation of the ellipse changes as the satellite moves. Reducing UX to 5 gives an ellipse which goes through the Earth, so the satellite crashes.

I haven't mentioned how satellites get into orbit in the first place. A rocket, or the space shuttle for American ones, is used to accelerate the satellite through the strong gravity close to the Earth. You can see why this is necessary by setting the initial position close to the Earth's surface (e.g. X=0, Y=11) and giving the initial velocity a vertical component (UY not zero). You will find this has to be very large to avoid an immediate crash.

The principles outlined here could be used as the basis for a game. For example a satellite could be given rocket thrusters controlled by the player, who must guide the satellite into a stable orbit. If anyone could write such a game and make it playable, I'm sure it would stand a good chance of being included in the magazine.

That's it for now, and I hope some of this was interesting.

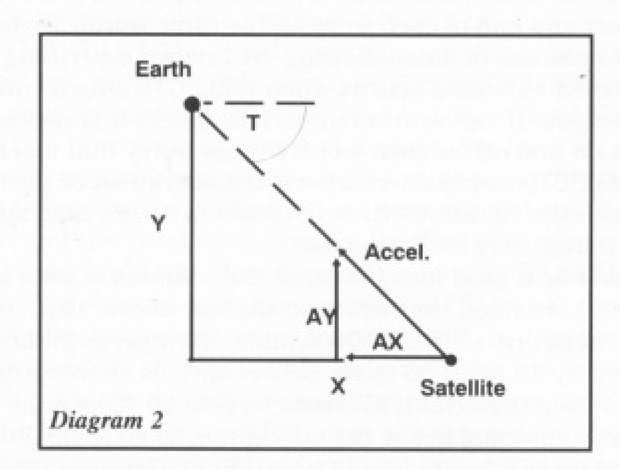


Diagram 2

FEEDBACK PLEASE!

I thought that I'd try something a bit different from the usual puzzle games but it's quite difficult to know where to pitch this article so I would appreciate any feedback through Mailbag. It would be useful to find out if you find this sort of material interesting, and whether more or less depth is wanted.

```
EI 1 REM ********************************
QB 2 REM * ORBITS PROGRAM 1: SATELLITE *
EA 3 REM * --------------------------- *
FL 4 REM *        By John Young         *
EC 5 REM * --------------------------- *
FN 6 REM * NEW ATARI USER - APRIL '94  *
EO 7 REM ********************************
NN 8 REM
PP 10 GRAPHICS 8
LT 15 SETCOLOR 2,0,0:COLOR 1
FD 19 REM  SET CONSTANTS
VF 20 XMAX=200
CN 30 GM=10000
FZ 40 R=10
TZ 50 X0=0:Y0=80
QK 60 UX=11:UY=0
RJ 70 FT=200
RR 80 DT=0.5
ML 90 GOSUB 1000
GR 99 REM  INITIALIZE SATELLITE COORDS
WS 100 X=X0:Y=Y0
PK 110 VX=UX:VY=UY
BT 199 REM  MOVE THE SATELLITE
FA 200 FOR T=0 TO FT STEP DT
GB 210 VX=VX-GM*X*(X^2+Y^2)^-1.5*DT
HG 220 VY=VY-GM*Y*(X^2+Y^2)^-1.5*DT
FA 230 X=X+VX*DT
FY 240 Y=Y+VY*DT
GG 250 PLOT 160+X*80/XMAX,80+Y*80/XMAX
RB 260 IF SQR(X^2+Y^2)<R THEN PRINT "CRAS
H!!!":END
KM 270 NEXT T
OH 280 END
ZI 999 REM  DRAW PLANET
XX 1000 SR=R*80/XMAX
VN 1010 FOR SY=-SR TO SR
TN 1020 SX=SQR(SR^2-SY^2)
RU 1030 PLOT 160+SX,80+SY:DRAWTO 160-SX,8
0+SY
YJ 1040 NEXT SY
AO 1050 RETURN
```

TECHNICAL DETAILS

Here is the detailed stuff. It is meant to be read in conjunction with the main article.

The force between two masses is given by

$$\text{Force} = -G*M1*M2/r^2$$

The acceleration of the mass M2 due to this force is force/mass, so

$$\text{Accel, } A = -G*M1/r^2$$

Splitting this into components (see diagram 2) AX and AY

$$AX = A*\cos T = A*X/SQR(X^2+Y^2)$$
$$AY = A*\sin T = A*Y/SQR(X^2+Y^2)$$

Putting in the expression above for A

$$AX = -GM*X/(X^2+Y^2)^{3/2}$$
$$AY = -GM*Y/(X^2+Y^2)^{3/2}$$

(GM is a new constant equal to G*M1)

These expressions are used in lines 210 and 220 of the program, the changes in velocity components being these multiplied by DT.

Ian Finlayson's

TUTORIAL TIME

TEXT MOVING

Before I start the next part of the Textpro tutorials I would like to thank John Bunting for his letter. He wrote to advise on the comment I made about the Textpro manuals printing progressively further down each page. As this can be a recurring problem I will go into it a bit further and pass on his advice.

Two things contribute to the phenomenon. It usually occurs when the software uses line feeds to advance the paper to the top of next page. The paper in the USA is nearly all quarto (8.5" by 11") unlike ours which is A4 (11.625" long). Most continuous printer paper follows the American standard (true A4 can be obtained, but is rather difficult to find and generally more expensive), but single sheet printers in this country are more likely to use A4. At the normal 6 lines per inch the US paper can accommodate 66 lines while A4 can in theory take 69, so if the print commands are made line by line with no page break commands a printer using A4 continuous paper will start to print the first lines of the second page at the bottom of the first.

I use A4 paper in my HP Deskjet, and so if my reasoning above was correct each page of the printout would be 3 lines higher on the page than the previous one, but in fact it actually moves DOWN!! So what is going on? Inkjet printers have unprintable areas at the top and bottom of the page due to the paper handling mechanism (the rollers that hold the paper in place). The maximum number of lines I can make it print is 67. If I just print a string of numbers down the page using a very simple one line program:

```
10 FOR X=1 TO 70:LP.X:NEXT X
```

I get 1 to 64 on the first page and 65 to 70 at the top of the second. This is evidently what the document printing program of Textpro achieves - two lines short of the US quarto 66 and so my printout slips two lines down the page each time.

There is one more problem that can beset you if you invest in true A4 continuous paper for a printer. The paper length (11.625") is not a whole number of sixths of an inch - this means that there are not an exact number of lines on a page. It is 0.125 or one eighth of an inch out from the line above and 0.042 or one twenty-fourth from the line below. This can cause a print out to wander very slowly up or down the page, probably only noticeable when a multi-page document is printed.

BACK TO TEXTPRO

Moving on from the absolute basics of Textpro introduced last time, I have prepared a letter for us to manipulate into a better form. I assume that you do not want to learn to type, just to use Textpro, so the bare text of the letter is on this issue's disk as LETTER.TXT. What I have done is type the text of a letter (a totally fictitious one) without any consideration for format, just typing and putting in a [RETURN] at the end of each paragraph and a second [RETURN] where I want a whole line space between paragraphs. If you print it out as it stands it looks like figure 1. Probably the easiest way to load this is to put the Page 6 disk in your drive and type [CTRL]+m. This will list all the files on the disk. Use the arrow keys to move the highlight onto LETTER.TXT and type [CTRL]+L.

FORMATTING

First we need to format the letterhead (as we did last time - remember?). First make certain that your cursor is in insert mode. Type [CTRL]+i and look at the top line of your screen. If it says "Replace Mode" press [CTRL]+i again and it will read "Insert Mode". Now move to the beginning of each of the first three lines and insert [SELECT]+c to centre them, and at the beginning of the date line put [SELECT]+e to align it with the right edge.

The line that starts "Account No ... " is the letter title or reference so we will underline it. Move your cursor to the beginning of the line and type [SELECT]+u. [SELECT]+e and [SELECT]+c only affect the line they are in, but [SELECT]+u is a toggle that switches underline on until it is used again to turn it off. [CTRL]+z will move the cursor to the end of the line to put the second [SELECT]+u in place.

In the line that starts "Item" we need to put a [SELECT]+u at the start and end of each word as the three words are headings for the columns of data following. In Textpro everything is underlined including spaces when [SELECT]+u turns underline on, so if you do not want to underline spaces it is necessary to switch on and off for each word. Do not worry that inserting the [SELECT]+u characters upsets the alignment of the headings with the columns - these characters do not take space in the printing, only on the screen.

It would be a good idea to indent the columns of data from the main text. Position the cursor on the line above "Item" (it is just a "bent arrow" [RETURN] symbol). Now press [SELECT]+l followed by 10 (with no space between). This changes the left margin from the default (5 characters) to 10. This must be restored to normal below the tabulation, so go to the line above "Taking them in order..." and type [SELECT]+l5 (not fifteen, small l and 5).

SEARCH AND REPLACE

Enough of formatting, lets go on to something a bit different. Search and replace can be a very useful tool particularly in long documents. For instance when I was preparing this docu-

PRO
ON

ment I realised that [CTRL]+ and [SELECT]+ would be coming up several times, and as my typing skills are not very good such unusual characters slow down my progress markedly. So I just put in ccc for [CTRL]+ and sss for [SELECT]+ and then at the end did a global search and replace of each in turn. This also works with acronyms. You can use the abbreviated form while typing and then expand to the full form for the convenience of your readers.

In Textpro there are two ways to do search and replace. Global replace is done with [CTRL]+g. First remember that the replace starts at the cursor position and goes on to the end of the document, so use two [CTRL]+h's to get to the top of your document (Home) before you start. Continuing with our letter to the fictitious Building Society type [CTRL]+g and the prompt "Find:" appears in the top line. Type in "Indirect" and hit [RETURN] (note the capital I in Indirect). The prompt in the top line changes to "Change to:", so type in "Direct". Now as soon as you hit [RETURN] the search and replace goes quickly through the whole document.

If you scroll through the document you will see that the correct action has been taken in the table and the title of the Direct Debit paragraph, but there is still an "indirect" in the body text of that paragraph. This has not been changed because the search and replace is case sensitive and will only find exact matches. Let us change this one using the other method.

Go back to the top of the document. Now type [SELECT]+[CTRL]+f. The "Find" prompt appears again. Type in "indirect" and hit [RETURN]. Now type [SELECT]+[CTRL]+c and the "Change to:" prompt appears. Type in "direct" and [RETURN]. This time nothing seems to happen. We have set up the search and replace strings (they each can be up to 30 characters long), but the search has not yet been carried out. Type [CTRL]+f and the cursor will jump to the first occurrence of the search string "indirect". If we want to replace it [SELECT]+c will carry out the change, otherwise another [CTRL]+f will move on to look for the next occurrence. In our document there are no more occurrences so "Not found" appears in the top line. This method for search and replace is longer and slower than the global method that we used first, but it is much safer as you get a chance to review each replacement before it is acted on.

As hitting [RETURN] terminates input at both the "Find:" and "Change to:" prompts you may think that you can not search and replace a [RETURN]. Fortunately the authors of Textpro realise that this would be a very useful feature (and one that is not available in many other word processors) so they made it possible. If you want a [RETURN] in the search or replace strings put it in by pressing [ESCAPE] then [CTRL]+. At this stage you may wonder why this is useful - one example would be editing a pre-formatted document file from another (non--

```
60 Roundstone Crescent
East Preston
West Sussex   BN16 1DQ


The Manager
Wooly National Building Society
Rustington
West Sussex   BN00 1ZZ


10 February 1994


Dear Sir,

ACCOUNT No IF9876543

I write to enquire about some anomalies which I have noticed in the
monthly statement for the above account sent to me last week.  I am
puzzled by the following items, each of which is described in detail
later.

Item          Date           Description
001234      1 Jan 1994     Transaction charge
SO9847      5 Jan 1994     Standing order
00123849    5 Jan 1994     Duplicate entry
DD0023     18 Jan 1994     Indirect Debit

Taking them in order:-

.n Transaction Charge

I wish to query the 25 pound Transaction charge. I understood at the
time opened my account that I would not have to pay any bank charges
if I kept the account continuously in credit.  I know that the balance
did just dip below zero for a day during the last accounting period,
but no charge was made at that time, so why has it appeared now.

.n Standing Order

Second the standing order payment on 5 January - this should be for an
amount of 15 pounds, but appears in the statement with an additional
15 pence added.  Is this a "hidden" bank charge?  I do not recall
seeing anything about charges for direct debits in your conditions.

.n Wrong Amount

Entry 001239 seems to have erroneously duplicated the 10 pound payment
made in the previous transaction (001238).  This should in fact be 18
pounds.

.n Indirect Debit

Finally the indirect debit has changed from earlier months, increasing
by 4 pounds.  Has this increase originated from the payee or is it yet
another of your bookkeeping errors?

I await your investigation and reply of these questions with
impatience and some annoyance,

Yours faithfully




Ian Finlayson
```

Figure 1. *The 'bare bones' letter as it would appear without the effect of formatting - check overleaf to see the effect of a few simple commands*

Textpro) source. The source document might have each line formatted with a [RETURN] at the end and you want to strip these out to make continuous text up to the paragraph end. This can be done quickly by the following sequence:

1. Search for paragraph ends (usually [RETURN] [RETURN]) and replace with any unusual string (say ##).
2. Search for line ends (single [RETURN]) and replace with a single space.
3. Search for ## and re-insert the paragraph breaks ([RETURN] [RETURN]).

INTRO TO MACROS

Now we will take a first look at macros. Textpro has a very powerful macro capability that allows you to automate the things that you do most regularly and I will revisit the subject in a later article, but this time I will just show you how to load and use one of the macros supplied on the Textpro disk.

First go to the top of the letter again. Now type [CTRL]+v and the top line will prompt "Load Macro>D:". Type NUMBER.MAC and [RETURN], this loads the macro. When activated this macro scans through the document and if it finds ".n " any

continued ☛

where it will replace it with a number in sequence from 1 to 50. This provides a handy way of automatically numbering paragraphs after you have completed a document, allowing you to shuffle the order of the paragraphs as much as you like during the creation without having to worry about changing the numbering. Now you know why ".n " is typed at the start of each paragraph, just hit [START] and watch. The macro first saves your piece in a temporary file TEXTPRO.TEM so if anything goes wrong you can get it back. Then it goes on to change each .n to a number. Scroll through the letter and you will see the numbers in place. You may have noticed that the NUMBER macro disables the Help system. This is because the help is itself a macro. It can be restored by [CTRL]+v TEXTPRO.MAC.

PAGE BREAKS

Before you print out your text it is best to look at the page breaks to make sure that you are not splitting the text at a bad point. Take your cursor to the last line of the letter and hit [CTRL]+w (where am I?). If your letter is still the same as mine after all the changes the top line on your screen will show "Page 2, Line 20". This is where the cursor position will appear on the printed page. Go up to the heading "4. Direct Debit" and press [CTRL]+w again. This time you will get "Page 1, Line 56". Line 58 is the last line on the page and line 6 the first line of text on the next page with the set up that we have, so we are now just above the end of the page. You can move the cursor through the text to find the last word on page 1 ([SHIFT]+[RIGHT ARROW] will take you along a word at a time). I make the last word "by" in ".. increasing by 4 pounds ..".

It would really be better if the whole of paragraph 4 was on the second page. Move your cursor to the start of the line "4. Direct Debit .." and type [SELECT]+n - this forces the end of page. If you move your cursor down to the bottom line of the document and type [CTRL]+w again you will get "Page 2, Line 23" showing that 3 lines have been pushed down from page 1.

Well, I must end here. Although this article seems to have grown very quickly, I have not covered as much ground as I expected. I am finding Textpro quite a complex word processor, but that means it is also very capable and can be tailored to suit a great variety of needs. If you have had particular problems with Textpro please write to me and I will try to solve them for future articles.

My address is:

Ian Finlayson, 60 Roundstone Crescent, East Preston, West Sussex, BN16 1DQ

```
                    60 Roundstone Crescent
                         East Preston
                    West Sussex   BN16 1DQ

The Manager
Wooly National Building Society
Rustington
West Sussex   BN00 1ZZ

                                          10 February 1994

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ACCOUNT No IF9876543

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puzzled by the following items, each of which is described in detail
later.
     Item         Date         Description
     001234       1 Jan 1994   Transaction charge
     S09847       5 Jan 1994   Standing order
     001238&9     5 Jan 1994   Duplicate entry
     DD0023      18 Jan 1994   Inirect Debit
Taking them in order:-

 1.Transaction Charge

I wish to query the 25 pound Transaction charge. I understood at the
time opened my account that I would not have to pay any bank charges
if I kept the account continuously in credit.  I know that the balance
did just dip below zero for a day during the last accounting period,
but no charge was made at that time, so why has it appeared now.

 2.Standing Order

Second the standing order payment on 5 January - this should be for an
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 4.Direct Debit

Finally the direct debit has changed from earlier months, increasing
by 4 pounds.  Has this increase originated from the payee or is it yet
another of your bookkeeping errors?

I await your investigation and reply of these questions with
impatience and some annoyance,

Yours faithfully



Ian Finlayson
```

Figure 2. *The letter after the formatting commands have taken effect. Note the centred headings, underlining, indentation and numbering of paragraphs. The page break occurs before heading number 4, although we have put the two pages together to save space*

INSTANT MENUS

by David Sargeant

A programming tip for fellow Atarians - always save the back issues of New Atari User, they can give useful hints on future programming projects. There was an interesting article in Issue 45 from Ian Finlayson about screen flipping. This provides a way of storing more than one screen image in the computer's memory and instantly 'flipping' between these as they are needed. A similar technique can also be used to flip the text window. I originally developed this to make menus instantly accessible, but you might find other uses. Here is a short program to demonstrate my meaning.

DEMONSTRATION - This just shows how to print text to the main screen. Note the use of the PRINT#6 command. Although this screen is used for text, the computer regards this as Graphics One. Text does not scroll as in a normal screen, so be careful of printing outside the borders.

CHANGE MENU - After the menuing system has been initialised, it is all controlled by the variable TWINDEX with the range of 0-2 to indicate one of the 3 menus in the system. This variable is used to access the array TEXTWINDOW to find the high byte of the storage address for the respective menu, (the low byte is always 0). These 2 bytes are then copied to the text window pointers in the display list which has the effect of the menu being displayed instantly.

INITIALISE - Throughout this initialisation routine the screen display is turned off by storing 0 in address 559. It is turned on again by storing 34 in the same address.

RESERVE SPACE - The text window in a graphics mode is in mode 0 and requires 160 bytes (40 bytes per line, 4 lines). There are 3 menus in this demonstration and I want to use a page for each, so 3 pages need to be reserved behind RAMTOP for this.

CHANGE DISPLAY LIST - For this demonstration I need a main text screen of mode 0 proportions (20 rows, 40 columns) and a normal mode 0 text window (4 rows,40 columns) for menus. I have chosen to adapt a standard mode 12 screen, it is really for multi-coloured text, but it gives the right number of rows and columns and it automatically provides a text window. Its display list can then be altered to print normal text by changing it to Antic mode 2.

SET UP MENUS IN TEXT WINDOW - For each menu in turn the high byte of its storage address is copied to the array TEXTWINDOW and the text window RAM addresses 660,661 (text window equivalents of 88,89) are updated. The 4 menu lines are read in turn from the data statements and stored by setting the cursor to the top of the text window and printing in the normal way. After the menus have been processed, the variable TWINDEX is set and the menu displaying sub-routine is called to begin the demonstration.

```
WO 1 REM ********************************
ZH 2 REM *          INSTANT MENUS        *
YZ 3 REM *        by David Sargeant      *
SQ 4 REM * ----------------------------- *
LO 5 REM * NEW ATARI USER - APRIL '94 *
WT 6 REM ********************************
NM 7 REM
GL 14 GOTO 20000
WW 1000 REM DEMONSTRATION
UP 1010 POSITION 5,2:? #6;" I N S T A N T
   M E N U S "
XL 1020 POSITION 12,6:? #6;"Demonstration
   "
MM 1030 IF PEEK(764)=28 THEN POKE 764,255
   :RETURN
GW 1040 IF PEEK(764)=33 THEN POKE 764,255
   :GOSUB 10000
OQ 1050 GOTO 1030
AR 10000 REM CHANGE MENU
QS 10010 TWINDEX=TWINDEX+1:IF TWINDEX>2 T
   HEN TWINDEX=0
MY 10020 TWHI=TEXTWINDOW(TWINDEX):POKE DL
   IST+26,0:POKE DLIST+27,TWHI:RETURN
FB 20000 REM MAIN PROGRAM CONTROL
DB 20010 GOSUB 25000:REM Initialise
SS 20020 GOSUB 1000:REM Demonstration
UU 20030 POKE 559,0:POKE 106,RAMTOP:GRAPH
   ICS 0:END
GE 25000 REM  INITIALISE
TK 25010 REM Reserve space
ZG 25020 GRAPHICS 12:POKE 559,0:RAMTOP=PE
   EK(106)
BZ 25030 MENUS=RAMTOP-3:POKE 106,MENUS:GR
   APHICS 12:POKE 559,0
ES 25040 SETCOLOR 1,0,2:SETCOLOR 2,0,6:SE
   TCOLOR 4,9,2
MJ 25050 POKE 82,1:POKE 83,39:POKE 752,1
YX 25060 REM Change display list
BT 25070 DLIST=PEEK(560)+256*PEEK(561)
JZ 25080 POKE DLIST+3,66:FOR I=6 TO 24:PO
   KE DLIST+I,2:NEXT I
IR 25090 REM Set up menus in text window
KV 25100 DIM TEXTWINDOW(2),LINE$(38)
YF 25110 FOR I=2 TO 0 STEP -1
PR 25120 PAGE=MENUS+I:TEXTWINDOW(I)=PAGE
GW 25130 POKE 660,0:POKE 661,PAGE
TE 25140 FOR J=0 TO 3:READ LINE$:POKE 656
   ,J:POKE 657,1:? LINE$;:NEXT J:NEXT I
MQ 25150 TWINDEX=2:GOSUB 10000:REM Set fi
   rst menu
SN 25160 POKE 559,34:POKE 764,255:RETURN
VT 30000 REM MENU DATA
IS 30010 DATA ┌───────────────────────────
   ──────────┐
ZM 30020 DATA │ Menu #3        Space to show
   next menu │
UO 30030 DATA │                  Esc to exit
          │
JO 30040 DATA └───────────────────────────
   ──────────┘
JI 30050 DATA ┌───────────────────────────
   ──────────┐
ZI 30060 DATA │ Menu #2        Space to show
   next menu │
VE 30070 DATA │                  Esc to exit
          │
KE 30080 DATA └───────────────────────────
   ──────────┘
JY 30090 DATA ┌───────────────────────────
   ──────────┐
XT 30100 DATA │ Menu #1        Space to show
   next menu │
UJ 30110 DATA │                  Esc to exit
          │
JJ 30120 DATA └───────────────────────────
   ──────────┘
```

contact ... contact ... contact ... contact

FOR SALE

FREE ADVENTURE!!!: After my first adventure, The Cave, I now present my second adventure written for the Atari Classic, "Ye Olde House". To receive a copy completely free of charge, send a disk with SAE to Mr. John Foskett, 26 Auckland Road, Kingston-upon-Thames, Surrey KT1 3BG

CASSETTES: Atari games, all at £1.50 each: Yogi, Ninja commando, Mario Bros (cart), River Raid (cart), Green Beret, Super Huey, Mercenary 1. All cassettes and loads more. Will post. Mr. M. Bennett, South Lodge, Whitewebbs Park, Clay Hill, Enfield, Middx. EN2 9JN

800XL SYSTEM: 800XL, 1050 disk drive, 1010 recorder (may need attention). Software consists of Fields of Fire, Leaderboard, Trivial Pursuit, Silicon Dreams, Zork 1, Deadline, Eastern Front, The Pay-Off and various other Atari User disks. £100 for the lot! May be able to deliver in Yorkshire or the North-East. Call Eric Watson on 0609 778761

XE SYSTEM: 130XE with Ultramon and Centronics printer interface built in; 1050 disk drive with Happy built in; 1010 cassette recorder (reliable Japanese made unit). Complete system including manuals and original games on cassette and disk. All in good condition, can be shown working. £110 or near offer. Please phone Ian Wiseman for more details on Lincoln (0522) 546145 (Sundays only!)

GAMES & STUFF: A number of Atari Classic cassette games from £1 each, or buy the lot for £30 - will swap for 850 interface and ST to XL cable. Midimaster, £5 (hardly used). Many Atari ST games for sale including Star Wars, Gauntlet, Midwinter, Carrier Command from £3 each - the lot for £35. Also need to clear out my ST mags. Send SAE for lists to: David Davies, Pen-Tyddyn, Capel Coch, Llangefni, Anglesey, Gwynedd LL77 7UR - or e-mail me on: MBITDC9306@newi.ac.uk

CLASSIC ATARI SETUP: 800XL, disk drive XF551, tape drive XC12, Centronics printer cable with interface. All power packs, DOS 2.5, DOS.XE, MYDOS, Mini Office II, Atari Toolkit, Atari Writer, Turbo Basic and a number of Page 6 disks, Various manuals. £125. Derek Shipley, 18 Hester Place, Burnham-on-Crouch, Essex. Tel. 0621 784747

XL SYSTEM: 800XL, 64k, 1050 disk drive, 1010 and XC12 tape decks. Excellent condition, leads and manuals supplied, £70 ono. Software (over 100 games + Page 6 and PD) for above, all original on disk/cass/ROM, £50 ono. Technical Reference Manuals, £10; De Re Atari, £10. 12 assorted Atari Books, £20 ono. 92 assorted Atari User/Analog/Page 6 mags, £15. Will accept £150 for the lot. Tel. Nottingham (0602) 821879

RARE AMERICAN SOFTWARE: All the games mentioned are complete with manual and box. Most of them are very rare, moreover they are brand new, most never used! Mountain King (ROM), £6; World Karate Championship (Epyx disk), £6; Super Huey (Cosmi disk), £4; Fun With Art (Epyx ROM), £6; Pharoah's Curse (Synapse cass.), £4; Ghostbusters (Activision disk), £3; Zaxxon (original Datasoft cass), £3. If you choose two items or more, add £1 and you'll receive according to your choice, Ninja (American disk version) or Nibbler (disk). European postage is 20% of total order, packing is free. You can pay by hiding sterling notes in a 5.25" disk, it's much faster than normal P.O. or you can write me first to check the items you want. Berthault, Pierre-Andre, 9 Rue De La Tour, 75116 Paris, France.

CASSETTES: Over 50 cassettes, various games old and new; 10 'Old' Atari User magazines, £25 inc. postage. Phone Jason on 0778 426409

GAMES CONSOLE: Large version 2600 games console in great condition with rare H.E.R.O. cartridge and Donkey Kong, Stargate (like Defender), Pacman, Phoenix, Miniature Golf and Combat. One Atari joystick. All for £17 (inc. p&p) Also XL/XE software on cassette, disk and ROM. Send SAE to Dan Baverstock, 199 Mackie Avenue, Patcham, Brighton, E. Sussex BN1 8SE or phone (0273) 883630

XE SYSTEM: 65XE, XC12 recorder (Turbo), 2 joysticks, 1029 printer, a few games and Atari Writer (Turbo). All manuals and boxed. £100 o.n.o. May split. Phone 0803 835431. S. Devon

VARIOUS: 1050 disk drive, £75; 1010 recorder, £10 vgc with instr. Offers for Page 6/New Atari User issue 1 to 16, 17 to 59 with disks, Atari User Vol. 1 to 4, Antic Vols 1 to 45 various, Analog Nos. 12 to 45. Can deliver locally, otherwise buyer pays postage. Phone John (Tunbridge Wells) 08912 863281 for details of books and software also available.

HARDWARE & BOOKS: Offers please invited for: 800 fitted with 3 16k RAM boards and 10k ROM; CX853 spare memory board; set connecting leads; 2 transformer units; 410 recorder; 25 C15 cassettes; 2 Joystick controllers (boxed); 4 Basic cartridges; Assembler Editor Cartridge & docs; Graph-It cassettes & docs; Pacman ROM; Atari 400/800 User Manual; 400/800 Hardware manual; 400/800 Operating System Source Listing; 400/800 Technical Reference Notes; De Re Atari; 400/800 Basic Reference Manual; 11 different books on the Atari inc. Mapping and Your Atari Computer. Arthur Aylieff, 18 Lynwood Chase, Bracknell. Berkshire RG12 3JT. Tel. 0344 54460

PRINTER: 1029 printer, excellent condition with manual and software, £50. Phonemark cassette deck, £10. Loads of cassette games. Send s.a.e. for full list. Disk adventure Enchanter from Infocom, original box and documents, £10. Harry, 30 Framfield Road, London N5 1UU. Tel. 081 801 2969 evenings

XE SYSTEM: 65XE with XC12 recorder (with High Speed Rambit upgrade), 2 joysticks, over 80 games on ROM/cassette, NAU mags 31 to 66, AtariWriter and Basic Tutor '1' (includes programming literature and software). All items boxed and in immaculate condition. £120 o.n.o. Tel. 0782 516200 (Stoke-on-Trent)

COMPUTER/DRIVE: Atari 130XE and a Happy Disk Drive (1050) for sale. I wish to sell it for £400 sterling inc. postage. If someone is interested either write to me, Paul Farruiga, at 11 St. Paul Street, Luqa, LQA 03, MALTA or contact me on the phone at (0356 800706 between 8pm and 10pm Sunday to Friday and from 2.30pm to 4.30pm on Saturdays

XL SYSTEM: 800XL plus 1050 disk drive, boxed, all cables and manuals. Two systems £85 each, one with printer interface other with joystick. Tel. Macclesfield 0625 501534

XE'S: Three Atari 65XE's as new, £20 each or three for £55. One Atari 65XE, slight fault, £10. Power supply, new, £12. Tel. 0203 501404

WANTED

SOFTWARE: Archon II, Winter Events, Winter Olympiad '88 and Hawkquest on disk. Phone Jason on 0778 426409

WANTED URGENTLY: Zork II or Spellbreaker by Infocom. Originals only please. I will pay £5 each or will exchange for disk games - arcade or adventure. Contact Mark Stinson on 0952 641360 or at 7, Arleston Lane, Wellington, Telford TF1 2LT

FLIGHT SIMULATOR II: Complete set of manuals for 8-bit version wanted. Reasonable price paid. Write to: N. Henry, 3 Coral Close, Ballinagarvey, Ballymoney, Co. Antrim, BT53 7PH

SOFTWARE: I am looking for Broderbund's 'Karateka' on ROM, 'Koronis Rift' from Lucasfilm, released by Activision in 1985 on disk and Tynesoft's 'Winter Olympiad '88'. I will pay generously for all, especially Karateka, in good condition (box, instructions etc.). If you have them but they aren't in great condition, phone and I shall still buy for a lower price. Dan Baverstock on Brighton (0273) 883630

INTERFACE: Cheap 850 interface and ST to XL cable wanted. Write to: David Davies, Pen-Tyddyn, Capel Coch, Llangefni, Anglesey, Gwynedd LL77 7UR - or e-mail me on: MBITDC9306@newi.ac.uk

POWER SUPPLY: 1050 (UK) PSU, must be working and in good condition, send me offers including p&p. Contact Mr. A. McIntosh, 21 Roman Road, Bonnybridge, Stirlingshire, FK4 2DE, Scotland

BLACK MUSIC COMPOSER: Has anyone written any music files for 'Black Music Composer' and can anyone tell me if there is a version that is MIDI compatible. Contact Mr. A. McIntosh, 21 Roman Road, Bonnybridge, Stirlingshire, FK4 2DE, Scotland

REPAIRS: Wanted person or company that can repair and service my Atari 8-bit equipment, must be cheap and reliable or does anyone have the 810/1050/1029 hardware technical manuals, either original or photocopy for sale or can lend me a copy. Contact Mr. A. McIntosh, 21 Roman Road, Bonnybridge, Stirlingshire, FK4 2DE, Scotland

TOUCH TABLET: Atari Touch Tablet with AtariArtist cartridge, must have protective nylon sheet over tablet surface (e.g. good condition with all pixel sensors functioning). Phone Tunbridge Wells, Kent (0892) 549780 any time (answerphone).

TUTORIALS: Atari language tutorial tapes wanted, e.g. Conversational English, French, Spanish or programming tutorials with cassette based speech. Phone Tunbridge Wells, Kent (0892) 549780 any time (answerphone)

TOUCH TABLET: Wanted Touch Tablet for 800XL, ROM cartridges - AtariWriter, SpartaDos etc. Phone Alan Turnbull on 0670 822492

CHIP: Wanted Controller chip No. C025953 for upgrading Atari 65XE to 130XE. Also Happy chip set for upgrading 1050 disk drive. Tel. 0203 501404

PEN PALS/HELP

PROGRAMMERS CLUB: The Atari Classic Programmer's Club needs more members. If you want help to get the most out of the Atari, then join us now. Membership fees to suit most pockets. Also the chance to write your own commercial software from designs already laid out, with graphics and sound provided. For info, send an SAE to ACPC, Pen-Tyddyn, Capel Coch, Llangefni, Anglesey, Gwynedd LL77 7UR. You can e-mail us on: MBITDC9306@newi.ac.uk

PENPALS: Wanted Atari 8-bit penpals with a disk drive. I have a 256k Atari 800XL, 810, Quad 1050 and 1029 printer, around 500 disks, most of Page 6, Atari User, Monitor, N.A.U., TWAUG and some Antic and Analog mags, 23 books, into programming languages like 'Assembly', 'C', 'Pascal', 'Turbo Basic', enjoy FRP games like Ultima and the like and some arcade games. I am 27, single and unemployed. I have had an Atari 8-bit since 1985. Contact Mr. A. McIntosh, 21 Roman Road, Bonnybridge, Stirlingshire, FK4 2DE, Scotland

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THE ACCESSORY SHOP
ISSUE 67

CLASSIC ROMS

AVAILABLE AGAIN!

A lot of the games that long time owners regard as the original classics have been unavailable for some time but we are delighted to be able to bring you, once again, a selection of those classic cartridges - including some of the best games ever for your Atari. If these games are not in your collection, your collection is not complete. And if you are a new owner these are guaranteed winners - grab a couple today!

RESCUE ON FRACTULAS



One of the all time classics available again. You need to rescue the Ethercorps pilots stranded on the planet Fractulas by flying your rescue craft in through the mountains and completing the tricky landing. You don't have long as the pilots will soon die in the poisonous atmosphere. Designed by George Lucas, of Star Wars fame, and regarded the turning point of home computer game design. Part flight simulator, part arcade shoot, totally addictive, totally compelling.

ROM CARTRIDGE **OUR PRICE £7.95**

BALLBLAZER



The year is 3097 and you are the contestant in the most competitive and by far the most popular sport in the universe. Jump immediately into head-to-head action against a friend or hone your skills against a selection of Droids. Either way, you're in for the match of the century! Excellent graphics and split screen action have made this one of the Atari classics.

ROM CARTRIDGE **OUR PRICE £7.95**

LODE RUNNER



Back again, but only for a short time. One of the most highly rated and challenging platform games of all time that let's you play forever! Uniquely for a ROM game, Lode Runner allows you to create your own games and levels, if you have a disk drive, with its built in editor. Run, jump and blaze your way through the catacombs in 75 challenging levels before you start to design your own. Sure to be in great demand but we only have a limited stock.

ROM CARTRIDGE **OUR PRICE £7.95**

TENNIS

Forehands and backhands, driving approach shots, angled volleys, overhead smashes and tricky lobs - you've got all the strokes in Tennis! Plus a wicked serve that goes where you want it. Here's the action packed game that challenges you to play at your best. Play singles against the computer or another player or doubles against another player. Either way the action is fast and furious.

ROM CARTRIDGE
OUR PRICE £6.95

POLE POSITION

Everyone has heard of Pole Position, the racing game that inspired almost every racing game since. It may be the original and some other games may have added features but Pole Position still retains its challenge after many years. One of those games that has exactly the right balance of game play and graphics to make it a classic that will last forever. If it is not in your collection, make amends now while it is still available

ROM CARTRIDGE
OUR PRICE £5.00

MILLIPEDE

Creepy crawly bugs like jumping spiders, buzzing bees, bouncing beetles, mosquitoes, dragonflies, inchworms and earwigs have invaded your garden patch - and you've got to blast fast to get rid of them! But watch out! The millipedes are the most insidious insects of all! Fast action graphics and real bug sounds make this game just like the arcade smash hit. Uses joystick or TRAK-BALL.

ROM CARTRIDGE
OUR PRICE £5.95

JOUST

In days of olde when knights were bolde - they never saw anything like this! You don your helmet, hoist your lance - and mount your ostrich to do battle with the evil Buzzard Riders in deep space! Pterodactyls to the right of you, alien eggs to the left - learn to fly so you won't die so very far from home. All the thrills of the arcade game for one or two players.

ROM CARTRIDGE
OUR PRICE £6.95

BASKETBALL

The original basketball game gets back to basics but, like the VCS version, is lots of fun. You can dribble, shoot, pass, block shots and even make steals. Five different game variations allow up to four players to compete on the 400/800 and two on the XL/XE. Sometimes, like the early games, simple graphics can mean addictive play and a lot of fun!

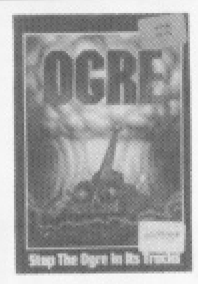
ROM CARTRIDGE
OUR PRICE JUST £4.00!

MANY ITEMS ON THIS PAGE ARE NOW IN LIMITED SUPPLY SO WE ADVISE EARLY PURCHASE

SEE ALSO OGRE AND BATTALION COMMANDER ON DISK OVERLEAF

More new software

OGRE



Challenge the Ogre, a cybernetic supertank programmed to coldly annihilate anything in its path. Set on 21st century battlefields, this game of strategy is for either one or two players. Conventional forces such as nuclear-armed tanks, speed vehicles, howitzers and infantry must be skilfully deployed to defend a command post. The composition and placement of units is critical in destroying the Ogre which has multiple weapon systems and thick armour plating. Ogre is an adaptation of a well-respected board game and will appeal to all strategy fans. A game editor is included for lasting appeal.

DISK ONLY

OUR PRICE £6.95

BATTALION COMMANDER



NOW ON DISK!

An exciting real-time tactical game with you as lieutenant colonel in charge of an entire armoured battalion. Choose from five different scenarios from a training mission against a Soviet tank battalion to tough assignments against the Chinese. You can adjust the relative strengths of your forces and the opposition and choose from 40 different terrain maps and five different scenarios. Enough variety to last for years!

DISK

OUR PRICE £5.95

FIGHT NIGHT



Fight Night brings you all the thrills of the boxing ring as you face five of the most brutal fighters ever. Its five separate battles are total war with relentless action. The Boxing Constructor Set allows you and your opponent to create your own perfect boxers, selecting stamina, intellect and style. Train, spar and step into the ring to pit your perfect boxer against the computer or another opponent. For one or two players.

ROM

OUR PRICE £7.95

FOOD FIGHT



Charley loves to eat. One day he visits the carnival and heads straight for the Food Fight contest. Help Charley hurl mounds of fabulous food at disgruntled chefs. Spinach, bananas, tomatoes, watermelon will be thrown about as you try and make the chefs retreat. You are after the giant ice cream cone that awaits if you make it across the screen. Enjoy the fight ... and the mess!

ROM

OUR PRICE £7.95

CENTIPEDE

Imagine you live in an enchanted mushroom patch filled with bothersome bugs. Get those Centipedes with your bug blaster. Watch out for the spiders, fleas and scorpions, they all have magical powers - and they are after you! 1 or 2 players

ROM CARTRIDGE
OUR PRICE £5.00

ASTEROIDS

Asteroids surround you! Use your photon cannon to defend your spacecraft from a field of asteroids. These enemy asteroids become progressively smaller, swifter and more dangerous. Watch out for enemy saucers too! For 1 or 2 players.

ROM CARTRIDGE
OUR PRICE £5.00

ARCHON

A unique battle combining elements of fantasy with the strategy of the chessboard. Your men represent the forces of good and evil and when they each occupy the same square the board bursts into life with banshees, goblins and sorceresses. They cast spells, throw flames, even take on each other's shapes and characteristics. You can play the Light or the Dark either alone or with another player. A totally unique game.

ROM CARTRIDGE
OUR PRICE £7.95

HARDBALL

All the thrills of American baseball can be yours on a summer afternoon in the ballpark. Sit behind home plate, along the left field line, down the right field line or join the manager in the dugout. Look over the pitcher's shoulder as he throws the next ball. You control all the action of the batsmen, pitchers and fielders as you try and battle your way to the top of the league. An exciting game for one or two players.

ROM CARTRIDGE
OUR PRICE £7.95

ONE ON ONE



Play basketball with two of America's top players in this great sports simulation which features realistic offensive and defensive moves, fatigue factors, hot streaks, a shot clock, even instant replay and a shattering backboard! Like the game of basketball itself, One-on-One rewards you for playing with your head as well as your hands. Master the joystick moves, sharpen your timing and hone your reflexes. Jump! Shoot! Score!

ROM CARTRIDGE

OUR PRICE £7.95

US FOOTBALL



American Football is a big craze in this country and you can now play at home. Outsmart the defence, pass with amazing accuracy, run with speed and agility, make tackles, select offensive and defensive plays and more. You can take on the computer in a practice game or challenge a friend to a dramatic video bowl game of your own in a packed stadium. All the thrills of the gridiron

ROM CARTRIDGE

OUR PRICE £7.95

20 NEWLY FEATURED CASSETTES

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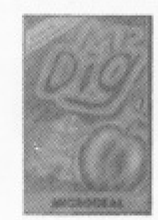
Prices start at £1.95 each and reduce according to how many you buy ... and you can mix these with our regular cassettes shown on the inside front cover

Now you have OVER 40 cassettes to choose from!



TWILIGHT WORLD

Enter the Twilight World. Equipped with the latest in anti-gravity pods and Laser weaponry, battle your way through each of the eleven dungeons defeating their fiendishly devious inhabitants along the way. A game from Atari themselves!



MR DIG

An old favourite in which Mr Dig has to dig for hidden food supplies in the 'Meanie' territory below ground. As he digs he can eat cherries or crush the Meanies with apples. Special treats earn extra points and a Magic Power Orb can kill all the Meanies.



SIDEWINDER

The original Sidewinder has you flying the high-tech Sidewinder hunter-killer helicopter through spectacular underground caverns, past the enemy defences and security systems to your home base on the hospitable surface. More great graphics from Zeppelin Games



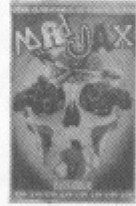
AZTEC CHALLENGE

At the ancient Mexican pyramid of Tenochtitlan the Aztec gods have demanded a human sacrifice. You are one of the chosen! Your only hope of escape is to survive a series of tests in which your agility and stamina are pushed to the limits. Over the centuries your race has developed amazing abilities in running, jumping and leaping - your only chance of surviving the epic Aztec challenge.



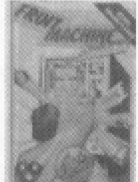
ON CUE

Control that cue ball! A challenging real life simulation which combines Pool and Snooker on the same cassette. An absolute must for both enthusiasts and beginners alike. If you have ever wanted to be at the Crucible taking part in the World Championships, now's your chance to practice.



MAD JAX

Someone has been lobbing shells into your nice, cosy little domed city threatening to force the population out into the radioactive wastelands outside. Take up the fast action as you race your heavily armed buggy through the enemy defences. Fight off their forces and survive or your city dies with you.



FRUIT MACHINE SIMULATOR

SOLD OUT

Code Masters version of the fruit machine that they claim is the first real fruit machine simulator. Features include Cash Box, Nudge Box (with Gamble, Hold and Nudge Bank), Skill Climb, Winning Streak, Cash Gamble, Holds and Mega-Holds, Skill Chances and Party Time Meter.



FOOTBALL MANAGER

Manage the team of your choice. Features include Transfer Market; full League tables; injuries; save game facility; promotion and relegation; FA Cup matches; managerial rating; 4 divisions; as many seasons as you like; pick your team for each match and seven skill levels.



POGOTRON

You have been stranded on a hostile planet, alone, except for the 'turbo-pogo', the only means of transport. You have the plans for a space ship and the search is on to find the equipment and then build the space ship to escape. The final danger is the Guardian who must be destroyed before you can be free.



MICRO RHYTHM

Microrhythm converts your computer into a programmable drum system. All of the realistic drum sounds were digitised using the Replay sampling system and eight drum sounds can be arranged in 29 different drum patterns. Annoy the neighbours without buying a drum kit!



STRATOSPHERE

It's five years on, the battle for human life has been successful but only to a point. The remnants of the alien force still menace Earth and it's your task to destroy them once and for all. Some really excellent graphics add spice to this space shoot 'em up.



DAWN RAIDER

Fly your heavily armed helicopter gun-ship into the fortified complex of the super criminal that is holding the world to ransom with his nuclear armed rockets. Guide your gun-ship through the great underground cavern, shooting and bombing the defence systems to stop the destruction of the world's cities.



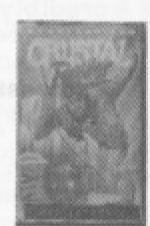
LEAGUE CHALLENGE

Manage your favourite football team your way. No more matches lost because the manager chose the wrong team or played a wrong combination. Now it's your chance to go for Division One or win the league and cup double. You may even find the manager's job is harder than you imagined!



MOLECULE MAN

Lost in a maze with 256 locations you must fight against time and lethal radiation to survive and teleport to safety. Also included is an easy to use, Maze Designer which will allow you to edit the existing game or create a new version. Nice 3-D graphics as you locate and fit 16 circuit boards to escape



CRYSTAL RAIDER

Solve the problems and collect the crystals. Fifty fiendish fatal patterns to be solved! Hours of mind and joystick bending entertainment for those who like their games to infuriate the parts other software cannot reach! Not really an arcade adventure but a series of logic problems to tax you all the way.



DARTS

Step up to the oche and enjoy all of the fun of competition darts that includes three dart games for the price of one. A choice of these popular games; 501, Round the Board and Cricket are available in this package.



SPACE WARS

Hideous aliens, ground bases bristling with guns, fiendish flying formations and an asteroid belt or three just to keep you on your toes! All you've ever wanted from a shoot 'em up with incredible playability makes this a must for any serious game player. Be warned, it's not for wimps. Be good or be gone!



PENGON

Can you save Penguin Willy from the ferocious mutant sea lions? Stun them by knocking them against the walls or crush them to a horrifying death with sliding ice blocks. High speed arcade action game, full colour graphics and music.



PHANTOM

Something strange has been happening, something quite unnatural. At first no-one took much notice. Those who had experienced it were considered crackpots but now the number of crackpots were too numerous - something strange was indeed going on. Another cracker from Zeppelin Games.



LAS VEGAS CASINO

Save your money yet again by staying at home but this time you can visit many different tables in the Casino. Choose from Black Jack, Craps, Baccarat or Roulette, names that conjure up the atmosphere of the Las Vegas casinos, a world of high stakes. You have $1,000 but the jackpot of $50,000 is waiting!



BMX SIMULATOR

SOLD OUT

A brilliant version of the epic C64 game. Eye in the sky viewing, amazing realistic simulation, the starting ramp, berms, bumps, water splash[illegible]realis[illegible] on the rider. Two player option and seven different courses will test even the best games player.

Any one cassette £1.95 - any two £3.50 - any three £5.00 - any 4 £6.50 - any five £7.50 or select ANY TEN CASSETTES FOR JUST £9.50!

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Still more choice

ROCKET REPAIR MAN

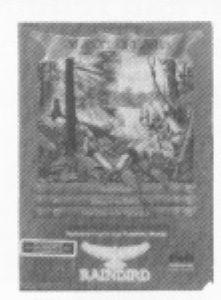


Buried somewhere in the underground maze of caverns of the planet Leskos are essential components of your Astro-ship. Get into your space suit, strap on your Jet Pack and begin the most terrifying descent imaginable. You must collect pieces of a rocket in which you can escape but beware the dreaded Neutino Ghosts and the Quark Phantoms out to stop you. Another neat game from Red Rat.

DISK ONLY

OUR PRICE £3.95

SILICON DREAMS

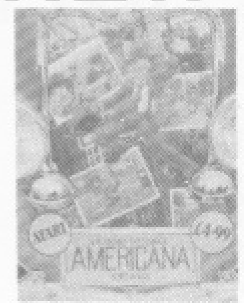


Taking the role of Kim Kimberley you are a leading participant in the colonisation of Eden, a planet prepared for human habitation by an advance guard of intelligent robots who battle with the native and highly aggressive fauna. In this highly structured and realistic environment you must move your mind into the twenty-third century. Silicon dreams comprises three excellent graphics adventures - SNOWBALL, RETURN TO EDEN and THE WORM IN PARADISE from Level 9, the masters of adventure

DISK OR CASSETTE

OUR PRICE £5.95

NEW YORK CITY

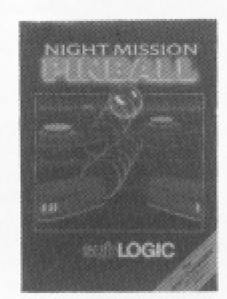


Welcome to The Big Apple. This hurried jungle of steel, concrete and glass bristles with fascinating sights and more than its share of danger. From the placid greenery of Central Park, there is no city in the world like New York, and boy are you about to find that out! As a visiting tourist you only have a limited time to see all the sights, but New York City has a little more excitement, a little more danger in store than a mere sightseeing trip to the zoo!

DISK ONLY

OUR PRICE £3.95

NIGHT MISSION PINBALL



The ultimate arcade simulation with five bumpers, seven stand-up targets, nine rollovers, two spinners and much more. So realistic you have to insert a quarter before you can play. So true to life you can even tilt the computer! Night Mission Pinball offers ten different modes of play for 1 - 4 players. Forty user-adjustable parameters allow you to create your own custom games or redesign any play mode to your own specifications. Beautifully packaged and with an excellent manual, Night Mission Pinball will save you money by keeping you away from the arcades!

DISK ONLY

OUR PRICE £7.95

GAUNTLET

THE DEEPER DUNGEONS

If you have the original Gauntlet disk then you will know how good the game is and will want to extend play with the Deeper Dungeons. Over 500 new dungeons are here for you to explore. This is the way to revive your interest in Gauntlet and play on for many more hours or days! This is a data disk only and requires the original Gauntlet disk.

DISK ONLY

OUR PRICE JUST £2.95

RAMPAGE

It's rough and tumble all the way as you control three incredibly nasty characters which bear a remarkable resemblance to King Kong, Godzilla and Wolf-man through an orgy of destruction in Chicago, New York and San Francisco. You have 150 days of destruction in 50 different cities. Time for some revenge!

DISK ONLY

OUR PRICE £3.95

THE E FACTOR

The E factor represents the amount of time the energy sources on the planets in our galaxy will last. Many planets need emergency fuel capsules delivered if they are to survive. You must plot the interplanetary course and guide your craft through the quadrants filled with obstacles such as space mines, alien fighters and spinning asteroids. Can you complete a mission and deliver your energy crystal before another planet calls on your services?

DISK ONLY

OUR PRICE £3.95

CROSSFIRE

You are alone in a deserted city surrounded by aliens who shoot lasers from every direction. Your movements are confined but you haven't given up. If you are to survive you'll have to concentrate on where the shots are coming from otherwise you'll be caught in the CROSSFIRE. One of those fairly simple yet highly addictive games.

CASSETTE ONLY

OUR PRICE £2.95

PLASTRON

Take your place in a small band of pirates out to steal fossil fuels from the biggest corporation in the galaxy. You must guide your shuttle craft along the surface of the planet Plastron to collect as much fuel as you can from the heavily defended mine zones and then rendezvous with the supply tank at the end of each level. Plastron got a good review in New Atari User and has some excellent graphics.

CASSETTE ONLY **OUR PRICE £2.95**

BATTLECRUISER

If you are a wargamer who has fought land battles before then you may need to learn new skills to do battle at sea. Battlecruiser gives you the opportunity to recreate naval engagements during Word War I between Great Britain and Germany or the World War II surface battles between Britain/France and Germany/Italy. There are 79 classes of ship to control as every aspect of famous battles is recreated. An extensive manual gives details of all of the ships and guides you through every aspect of play.

DISK ONLY **OUR PRICE £7.95**

THE LIVING DAYLIGHTS

Control James Bond through eight fast and furious levels from Gibraltar to Afghanistan and you will encounter the SAS (friendly), the KGB (not so friendly) and enemy helicopters (very unfriendly!). Your are up against Brad Whittaker, international arms dealer and megalomaniac, Necros, his ruthless sidekick killer and Koshkov, the double dealing KGB General. You may fall in love with the beautiful Czech cellist Kara, but can you trust her?

DISK ONLY **OUR PRICE £3.95**

DRUID

Another classic in which, as Last of the Great Druids, you wander through the Dungeons of Acamantor with your mighty Golem by your side on a quest to destroy the four demon princes. As you delve deeper into the dungeons you will find chests containing spells of formidable power to aid you and Pentograms of Life which will heal and revitalise you. Excellent graphics and superb gameplay have made this one of the best arcade adventures on the Atari.

DISK ONLY **OUR PRICE £3.95**

Some new ... some old ...

THE ETERNAL DAGGER



A highly recommended follow up to Wizard's Crown, this fully graphics based fantasy role playing game will keep you entranced as you battle through the wilderness in search of the enchanted weapon that alone can save the folk of Middle World. Full of magic, mystery and intrigue this is one of the best adventures on the Atari.

DISK ONLY

OUR PRICE £6.95

BATTALION COMMANDER



An exciting real-time tactical game with you as lieutenant colonel in charge of an entire armoured battalion. Choose from five different scenarios from a training mission against a Soviet tank battalion to tough assignments against the Chinese. You can adjust the relative strengths of your forces and the opposition and choose from 40 different terrain maps and five different scenarios. Enough variety to last for years!

CASSETTE ONLY

OUR PRICE £4.95

SCOOTER

Scooter needs your help to get through the eight levels of his enchanted building. Inventive traps and unusual gimmicks abound. Weird sounds have been heard from the new building and the construction men are spooked. What could it be? It's your job to move Scooter up through the eight levels to find the secret. But don't think it's going to be an easy task!

DISK ONLY

OUR PRICE £3.95

LASER HAWK

Your Laser Hawk helicopter is ready to go, but are you? To destroy the five command centres of the evil Proc Irata, your ship will have to outfly or blast away its incredible defence systems which include air cannons, smart missiles, falling meteorites, heat rays and high level bombers. Eye stunning graphics and unbelievable non-stop action make this game a winner!

DISK ONLY

OUR PRICE £3.95

THE COUNT

One of Scott Adam's famous graphic adventures in which you awake in an antique brass bed in a dank, desolate castle. It soon looks like you are going to meet a certain toothy Transylvanian Count who goes by the name of ... Dracula! Will you escape or become one of the living dead? An adventure with full graphics, moderate level for ages 10 to adult.

DISK ONLY

OUR PRICE JUST £2.95!

BALLBLAZER

The year is 3097 and you are the contestant in the most competitive and by far the most popular sport in the universe. Jump immediately into head-to-head action against a friend or hone your skills against a selection of Droids. Either way, you're in for the match of the century! Excellent graphics and split screen action have made this one of the Atari classics.

DISK ONLY

OUR PRICE £3.95

KNOCKOUT BOXING

Challenge for the Heavyweight Championship of the World by boxing your way past nine progressively more skilful opponents. You will need speed and skill to deliver body weakening stomach punches, points scoring head jabs or deadly upper cuts. Your must remember to keep your guard up or the referee will soon be counting you out.

CASSETTE ONLY

OUR PRICE £3.95

JUNO FIRST

A fast and furious space shoot 'em up translated from Konami's early arcade machine of the same name. Dozens of alien craft will attack from all sides and you must be quick to blast them away and earn your bonuses. If you feel that you are going to die then you can take the last resort and warp away through a kaleidoscope of colour. Similar to invaders, this fast shoot 'em up will appeal to any arcade game fanatic.

DISK ONLY

OUR PRICE £3.95

TRIVIAL PURSUIT

The classic board game translated to the Atari with added question power. Now you can answer questions presented with music and graphics as well as straight text. An ideal family game or one you can play on your own. Over 3,000 questions and all the mechanics of the game taken care of by the computer. Trivia has never been so much fun and has never been available before at this price!

DISK ONLY

NOW ONLY £2.95!

PANZER GRENADIERS

In this exciting solitaire wargame you make the decisions for a regiment of the elite armoured infantry attached to the Panzer Grenadiers. Your forces also include mortar, artillery, Panzer IV, Panther and Tiger units. The Russian enemy is directed by the computer which will fiercely challenge you with its own complement of infantry, tanks and anti-tank guns. Three levels of difficulty, joystick control, hi-res graphics.

DISK ONLY

OUR PRICE £7.95

DECISION IN THE DESERT

Take command at the Battle of El Alamein. You can lead either side in this accurate simulation from the creators of F-15 Strike Eagle

CASSETTE

OUR PRICE £5.95

MIG ALLEY ACE

An aerial combat simulation set in Korea with 3D graphics, cockpit instrumentation, different skill levels and much more

DISK

OUR PRICE £6.95

COLOSSUS CHESS 4

Claims to be the best chess program of all. The writers of Sargon III would disagree, but there is no doub this is a fine chess simulation particularly for advanced players

CASSETTE ONLY

OUR PRICE £3.95

EXTRA CASSETTES

WE HAVE A NUMBER OF OTHER CASSETTES BUT ONLY IN SMALL QUANTITIES - PLEASE PHONE

BLUE MAX

Everyone must have heard of this World War Two 3-D flying game. We no longer have the ROM cartridge but this classic can be yours on disk dirt cheap!

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GAMES

ZAXXON
One of the all time classics for the Atari, Zaxxon set new standards with its unique 3 dimensional battle-field and great graphics

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TAIL OF BETA LYRAE
Our A-Z of Atari Software series says "The ultimate 'Scramble' clone with superb graphics and music." A great horizontal scroller

CASS OUR PRICE JUST 95p

FIGHT NIGHT
Fight Night brings you all the thrills of the boxing ring as you face the most brutal fighters ever in five separate battles, 1/2 players.

ROM OUR PRICE £7.95

SPEED HAWK
One of Atari's last games for the 8-bit can now be yours at budget price! A smoothly scrolling arcade game in which you must defend the ring worlds of your solar system from pirates.

CASS OUR PRICE £2.95

PANZER GRENADIER
A wargame of German armoured infantry on the Eastern Front. Five historical simulations, skill levels, joystick control, graphics

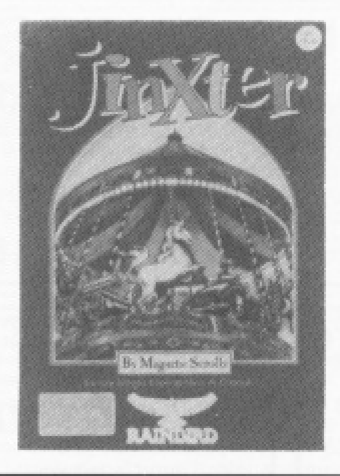
DISK OUR PRICE £7.95

NIBBLER
Slinking through an unknown land Nibbler finds himself in an iridescent world of constant change. As time grows short his body grows longer and he risks running into himself. Can he survive?

DISK OUR PRICE £1.95!!

JINXTER
An adventure from Magnetic Scrolls, the team that set new standards in adventure design Requires 1050 or XF551 drive

DISK OUR PRICE £7.95



ZORK 1
One of the most famous adventures of all time. Classic Infocom in the original box and packaging. A real bargain!

DISK SUPER PRICE £2.95!

US FOOTBALL
American Football is now a big craze in this country and you can now play at home. Outsmart the defence, make tackles, select plays and more.

ROM OUR PRICE £7.95

EASTERN FRONT (1941)
The classic war simulation by Chris Crawford that astounded Atari users when it was released. Based on Operation Barbarossa on the border of Russia.

ROM OUR PRICE £6.95

SUPER BREAKOUT
Breakout was the original simple yet totally addictive game and this enhanced version will provide even more addictive fun. Needs paddles.

ROM OUR PRICE £3.95

ONE ON ONE
Play basketball with two of America's top players in this great sports simulation which features realistic offensive and defensive moves

ROM OUR PRICE £7.95

MAXWELL'S DEMON
A simple yet challenging puzzle game which will get you totally addicted. In fact two games in one for double the fun

DISK OUR PRICE £1.99

MR ROBOT & HIS ROBOT FACTORY
One of the most famous platform games that has you running and jumping over everything in sight. A really classy game

DISK OUR PRICE £1.95

LANCELOT
Level 9 recreate the time of wizards and the Knights of the Round Table in a three part adventure spanning the complete saga of the quest for the Holy Grail. Superbly researched and superbly written this text adventure is full of atmosphere and highly recommended.

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APPLICATIONS

LETTER WIZARD
For those who need a little more sophistication in a word processor, Letter Wizard gives you all of the features you would expect

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INVITATION TO PROGRAMMING 2
Entitled Writing Your Own Programs, comprises TWO cassettes and TWO workbooks and does not require Invitation To Programming 1.

CASS OUR PRICE £2.95

MUSIC PAINTER
An exciting educational program that helps to teach music by using colours instead of notes. For children or adults alike

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BASIC CARTRIDGE
Some programs, especially some early public domain programs won't run on the XL/XE but they will if you plug in the old version of Basic.

ROM OUR PRICE £3.95

EDUCATION

JUGGLES RAINBOW
A first computer experience for children aged 3 to 6 that teaches the concepts of above, below, left and right plus letter recognition

DISK OUR PRICE £5.95

JUGGLES HOUSE
Another for 3 to 6 year olds teaching the concepts of inside, outside, upper and lower with Juggles' House and Toyshelf.

CASS OUR PRICE £5.95

BOOKS

EASY PROGRAMMING FOR YOUR ATARI MICRO
This book went out of print 3 years ago and we have been searching for a replacement ever since. We are absolutely delighted to have found more stocks of one of the best beginner's books ever published.

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HARD DRIVIN'

Scott Durose Brindley explains why you should consider a hard drive for your ST

No, this article is not about the game but the hardware! This is now one of the best times to purchase a hard drive for your computer. Why? The cost of course. With many models dropping as much as £100 since the beginning of the year, it has put them in the reach of many users for the first time. Power without the price (remember that old slogan!).

So what is a hard drive? Well, it is usually a grey metal box that makes a loud humming noise and lives under your monitor and requires one more power socket than you have. It is made up of four main parts, which are as follows:

1) The Host Adaptor
2) SCSI Drive
3) Power Supply and Fan
4) Case

THE HOST ADAPTOR converts the signals from the ST's DMA port into SCSI signals (Small Computer System Interface or scuzzi), allowing connection to such exotic things like CD ROMS, Floptical and Optical as well as hard drives originally designed for the MAC and PC. There are several host adaptors on the market at present. They are ICD Link, GE Soft and FAST Controller. They can allow up to eight SCSI devices to be connected. I use the GE Soft adaptor connected to 40mb drive and have no complaints at present.

A SCSI DRIVE is a black box about the same size as the 3 1/2 inch drive inside the ST. It contains, vacuum sealed, a rigid mylar coated disk that revolves around ten times faster than a floppy disk does. Data is accessed from the disk by a pair of read/write heads which live about the width of a smoke particle away from the surface of the disk.

If you are planning on building your own hard drive, SCSI drives can be picked up quite cheaply second hand or at computer auctions. If you do this, make sure you do by a SCSI, not an IDE or RLL as they will not work on the ST with any of currently available host adaptors.

POWER SUPPLY AND FAN - These two items are the cause of that noise pollution from your drive. It is okay if you use your computer in an office, as this noise soon gets drowned out by other things. At home this is a different matter. The noise can be very distracting when you are concentrating hard when programming or word-processing. A good solution to this is a CD player, Metallica and The Best of The Doors CDs playing in the background! The power supply should be at least able to power two drives in case you decide to expand your data storage capacity.

THE CASE is the final part of the hard drive. They are made out of steel, are indestructible and could survive a direct hit from a scud missile. Their made job is to keep all the electronics safe from any harm - cats, dogs, children etc. - but also doubles as a stand for your monitor so you don't lose any desk space. Again, if planning to build your own make sure the case is big enough to fit everything in.

WHY DO YOU NEED ONE?

If you are using your ST for serious applicationS such as DTP, WP, Graphics and Music, floppies are not really good enough. They are slow and have a finite storage capacity and endless disk swapping can become tedious and can also reduce the life of your disk drive. Much of the serious software nowadays comes on three or four disk and their output files can run into Mbs instead of K. With all this data in one easily accessible place there is no need to go rifling through your disk box looking for Disk #4 or that disk with all your. IMG pictures you spent hours converting, only to find that you formatted it by mistake last night.

If you play games on your computer you may think a hard drive is just for those people who are into that serious stuff. Well, you're wrong. Like serious software, games are coming on more disks. The "Insert Disk #3 into Drive A " can really put a downer or your game-play when you are in the middle of committing genocide on some alien race. Although not all ST games will install on a hard drive (software companies are worried about piracy, although nearly all PC games are hard drive compatible!), some do like the excellent Civilization which I recently purchased because of this fact.

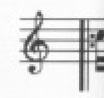
I bought my STE because my 1050 drive died and as they are now just as rare as a commercially produced STE game I upgraded to a 16-Bit machine. After a month, I had expanded it to 1Mb and was busy digitising my favourite bits from my video collection with the excellent Video Master. The files created by this were enormous and required a great deal of storage space and numerous floppies. I never really had any spare disk when I needed one. So I bought one and have never looked back since.

If this article has mad up your mind, go out and buy a hard drive. They are a great deal cheaper and of a higher quality than a few years ago and very rarely disgrace themselves by crashing (touch wood!).

If you are planning to build your own hard drive, you need to purchase a DMA, SCSI cables and a power supply to complete the kit. All you need to assemble it is a couple of screw drivers, pliers, patience and a few cups of tea. If on the other you don't want to bother with all the DIY stuff just buy one, the prices are quite remarkable now. When buying, make sure the drive has a DMA thru port, is auto booting and auto parking.

So go on, go out and buy it. It will the best thing you have bought, except for the ST itself of course! After a while, you may be wondering how you survived without one.

MAKING MUSIC WITH YOUR ATARI



MORE MIDI BASICS

In the last issue we looked at the fundamental concepts of MIDI, covering its roots, how it works, and some of the jargon associated with it. We'll now expand on this and also look at the basic items of music hardware needed if you want to start exploring the exciting world of music making via MIDI.

The first essential is something to produce musical sounds, which means adding some form of MIDI equipped synthesiser. There's a mind-boggling choice of kit available, ranging from cheap and cheerful "home keyboards" costing from around £200 up to unbelievably expensive professional studio quality synthesiser keyboards. As with computers the rate of development of electronic music equipment is frighteningly fast, so today's hot technology is obsolete in a depressingly short time. The upside of this is that there's a flourishing second hand market, so you can easily pick up first class equipment at a fraction of its new price. I'd advise the complete beginner to buy from a reputable music dealer though, as he'll help you choose the best instrument for your needs (and budget!). Hopefully, having read the rest of this article you'll have some idea of the main considerations involved.

There are two main classes of MIDI instrument - the "MIDI sound source" and the "MIDI controller", although the two are often combined in a single unit as in the ubiquitous synthesiser keyboard. The sound source generates audible sounds under the control of an incoming MIDI message stream. The MIDI controller is the device (such as a keyboard) which generates that stream. If supplied without an integrated MIDI controller the sound source is usually known as a "MIDI expander module". A keyboard without a sound source is known as a "mother" or "master" keyboard. Mother keyboard and expander may be connected by a standard MIDI cable, as outlined in the last issue.

John S Davison's regular guide to music making

SOUND SOURCE

Each instrument manufacturer tends to employ his own pet technology for generating sounds. Some use pure mathematical synthesis of sounds, others rely on manipulating digital recordings of real sounds as a basis, and yet more utilise a mixture of the two. The end result is audible sounds which can be played over a wide range of pitches and thus be used to make music. Many instruments are now "General MIDI" compatible, which means they have a standardised set of characteristics including a common set of sounds. A General MIDI compliant sound source is a good starting point for the beginner.
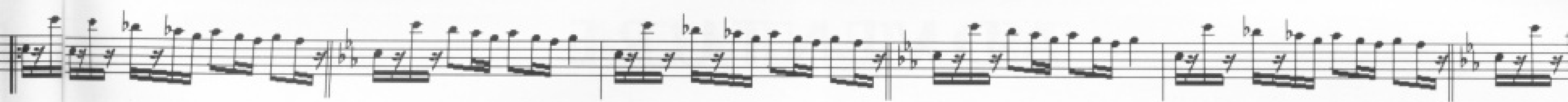
One very important consideration is sound quality. Different instrument models (even from the same manufacturer) often have their own distinctive sounds, and just because two instruments have a setting called "piano" doesn't mean both accurately mimic a piano. One may sound like a Steinway concert grand and the other like a nursery toy. When choosing an instrument make sure you LISTEN to it first, especially to those sounds you know you'll use frequently. Pianos, guitars, and massed strings are often a disappointment, so pay particular attention to these if they're important to you. Price plays its part too - you get what you pay for, so don't expect a £200 home keyboard to sound as good as £500 model.

If you're interested in producing your own customised sounds you should ensure your choice of instrument has "voice patch editing" capabilities and can upload/download patches via MIDI. Some cheaper models don't have these features, which usually means you're stuck with the sounds the manufacturer provided. Most instruments from respected companies such as Roland and Yamaha do permit editing, but check before buying just in case.

POLYPHONY AND MULTI-TIMBRALITY

There are two other very important synthesiser characteristics to check when choosing an instrument. The first is the number of notes it can sound simultaneously, known as the instrument's level of "polyphony". Many old synthesisers, such as certain models from the legendary Moog stable, were limited to playing one note at a time and were known as "monophonic" instruments. They were great for playing earthshaking bass parts or searing solo lines, but less suited to background pads as they couldn't play chords. Later models were "polyphonic", and could play many notes at once. Today, sixteen note polyphony is commonplace, with thirty two not unusual. For general use I'd recommend sixteen notes minimum, but get more if possible.

The second characteristic is the number of different sounds (or timbres) that can be played simultaneously, known by the ugly term "multi-timbrality". It's this which gives a single synthesiser the ability to sound like a complete band. For



example, it might play a bass guitar line, a wide selection of drum kit sounds, string section chord backing, rhythm guitar part, and piano solo - all at the same time! I'd recommend eight way multi-timbrality as a minimum - any less would probably prove restrictive in the long run.

The sound source can't function without input from a MIDI controller of some description. This is a device capable of generating and transmitting a MIDI message stream to tell the sound source what to play. The most popular controller is the MIDI keyboard - a piano-style keyboard which generates Note On, Note Off, and other MIDI messages as you play it. In addition its keys are often "velocity" and "aftertouch" sensitive, so let me explain these a little more.

VELOCITY AND AFTERTOUCH

On a piano if you press a key gently the sound plays quietly. Hit it harder and you get a louder sound. In fact, it's usually the SPEED of key depression rather than the force applied which affects the volume of sound produced. A MIDI keyboard electronically measures the speed (or "velocity") with which you strike each key and turns this into a numeric value between 0 and 127. This velocity value becomes part of the Note On message - it's the second data byte, if you remember the message structure from the last issue. When the message is received by a sound source it starts playing the specified note at the volume indicated by the velocity value. This makes the keyboard "touch sensitive" like a piano's, an essential prerequisite for expressive performance. For this to work both keyboard and sound source have to be velocity sensitive. Not all are, so beware.

The velocity value isn't restricted to controlling sound volume, it can also be used to vary other characteristics of the sound, typically a sound's overall tone or timbre (e.g. "brightness"). This is useful, for instance, when using a trombone sound. Hitting a key harder could change the sound from a soft and mellow tone to an aggressive rasp typical of a trombone being blown enthusiastically!

"Aftertouch" is the name given to the way a keyboard responds to continued downward pressure applied to a key after originally being depressed by your finger. As you "lean" on a note and change the pressure a series of MIDI "Channel Pressure" messages are generated, the number depending on how quickly you apply or remove the pressure. Each message consists of a status byte identifying its type and channel number, plus two data bytes linked to form a single binary number in the range 0 - 16383 reflecting the pressure applied. A sound source receiving the messages could be set up to add varying levels of vibrato, tremolo, wah-wah, or similar effect to the basic sound, depending on the aftertouch value - the purpose again to add expression to your playing. Channel pressure applies globally to all notes currently sounding on the channel, even if you've triggered aftertouch on just one of the keys. Once more both keyboard and sound source have to be aftertouch capable. These features aren't usually found on lower priced instruments.

There's a more complex form of the above included on very expensive keyboards. It's called "Polyphonic Key Pressure", which allows you to apply a different amount of aftertouch to each note sounding. It also generates vast amounts of MIDI data, as effectively each note has its own stream of pressure messages.

WHEELS AND PEDALS

Piano keys aren't the only controls used. Most keyboards have a thumb wheel for varying the pitch of a note as it's played (known as "pitchbend"), and a "modulation" wheel for varying the level of other effects applied to a sound, such as vibrato. Sometimes there are joystick, slider, or rotary controls for adjusting additional variable elements of a sound where you need to provide a specific data value to get the effect you want.

There may also be inputs for pedals, usually a "volume" pedal for setting the overall volume level of the instrument (not to be confused with velocity, which applies to individual notes) and a "sustain" pedal which works like its piano equivalent, causing notes to continue playing until you release the pedal. There may also be a socket for a "breath controller", a pressure sensitive device a player holds in his mouth so he can play the keys with both hands and still vary some characteristic of the sound by varying his breath pressure.

When activated, most of these controls make use of the "Control Change" message to communicate their information to the sound source, with data sent depending on the type of control. Some, such as the modulation wheel, are classed as "continuous controllers", which means they generate a series of messages reflecting a continuously changing set of values which vary smoothly between two limits as the control is moved. Others, such as the sustain pedal, are simple on/off switches with essentially two values indicating the current position of the switch, e.g. sustain on, or sustain off. The pitchbend wheel generates its own special message - the Pitchbend Change message. It's different from the others as the wheel may be moved either way from its preset central position, to vary the note up or down in pitch. The central position has a value of 8192, rolling it forward gives a maximum value of 16,383, and pulling it back a minimum value of 0.

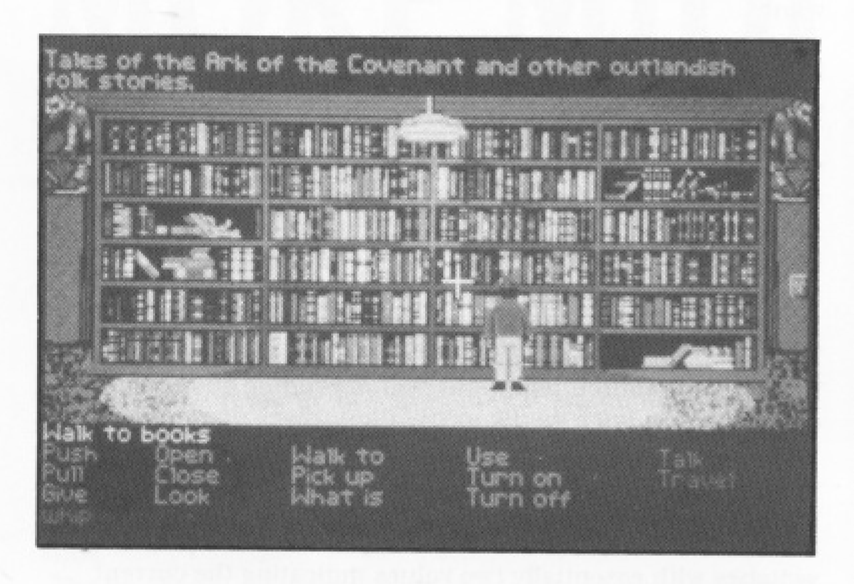
Finally, there could be one or more switches used for sending specific control values to a MIDI sound source, for instance to change from a piano sound to a violin sound. The switch is usually associated with a means of setting a specific numeric value, usually in the range of 0-127, so when the switch is operated the chosen value is transmitted. MIDI achieves the sound change via its "Program Change" message.

WHO NEEDS A KEYBOARD!

Can't play a keyboard? Never mind, keyboards aren't the only form of MIDI controller. Other possibilities include MIDI drum pads - hit these with your hands or sticks to generate MIDI Note On/Off messages you can use to trigger drum sounds - or any other sounds for that matter. Clarinet or sax players can use "electronic wind instruments", which are played like a clarinet or saxophone but produce MIDI message streams based on the player's lip pressure, breath velocity, and finger positions instead of making audible sounds. Guitarists can use a MIDI guitar which generates MIDI messages from string movement and finger positions. Still no MIDI bagpipes yet, though!

Based on our definition above a computer can also be considered a MIDI controller when running appropriate software. We'll pursue this topic further next time.

A BATTERED FE



Indiana Jones is back and better than ever in this re-release of the Lucasfilm game of the third "Jones" film.

The game, as you may already know if you've seen the film, has you, as Indy, engaged on one of the most famous quests of history. The quest is for the Holy Grail, the cup that caught the blood of Christ at the crucifixion which is said to bestow eternal life on those that drink from it. For this reason the Grail has been sought for centuries by those wishing to use its powers.

In The Last Crusade, you must try and find the Grail because your father has gone missing while in search of it. You are called in to find it, and your father, to stop the Nazi's from creating a super army with its powers. The quest will lead to thrilling encounters in Venice, Bavaria, Berlin and Palestine as you encounter all sorts of nasty characters on your journeys, all of whom want the Grail's powers.

A LITTLE HELP

One item that may be of use to you is the Grail Diary that your father has compiled over 40 years of hard research. It has all the secrets that will lead you to the Grail provided you can understand it fully. To this end you are given a copy of the diary in the game box and it contains all the notes and drawings that Henry Jones, your father, has made. It is advisable to read this as it aids you on your journey and provides valuable knowledge throughout the game. It is also worth reading because it has some humorous references to Henry's disgust in his young son, who goes off on all sorts of wild goose chases and wonders what he might go after next, the Arc of The Covenant perhaps?

The game is protected by a subtle code system that masquerades as a translation that you have finally done for Marcus Brody. Once this is out of the way you can get to grips with the adventure itself.

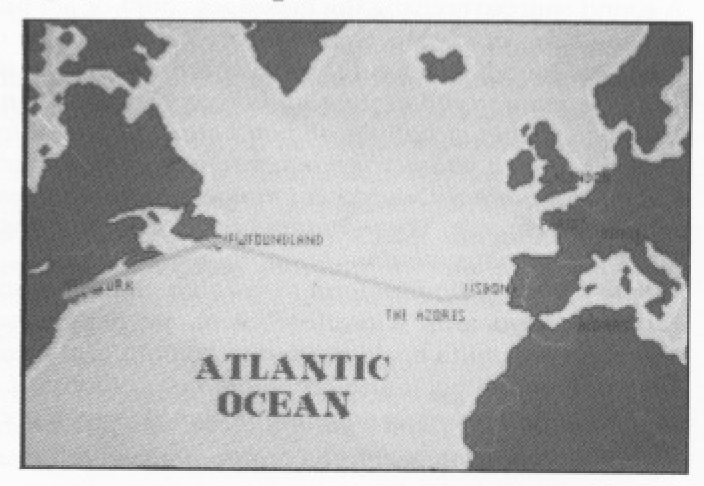
PLENTY OF ATMOSPHERE

This particular game is the adventure version of the film as opposed to the arcade version and is much the superior of the two versions. The adventure game is much more closely related to the film than the arcade game ever was. It uses much of the atmosphere of the film to set the scene and to make the game all the more interesting to the adventurer. One example is when you find the diary or have to pacify your irate students before you can get into your office. The game trips along quite merrily with you having control of either Indy or his father Henry.

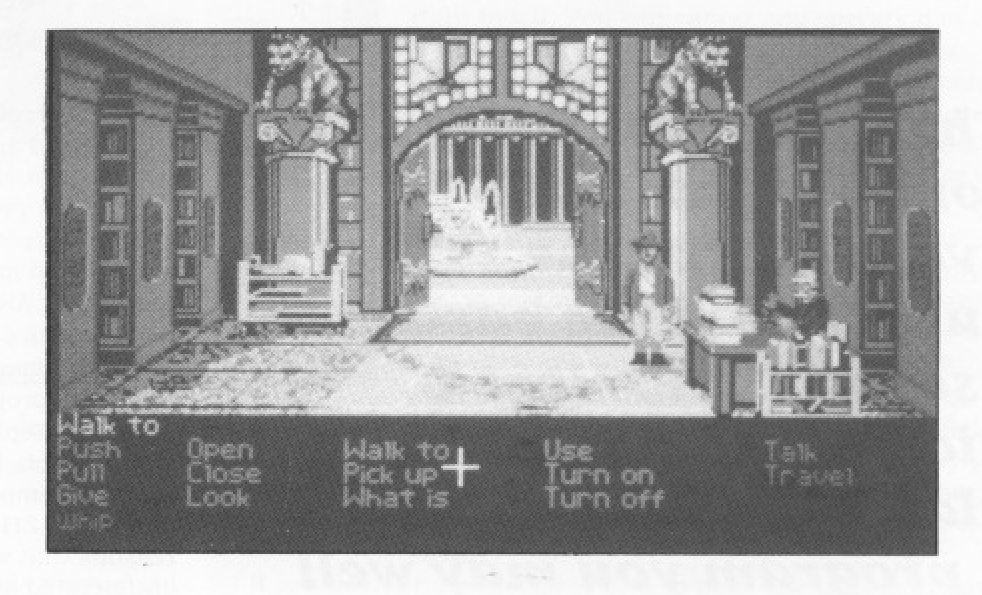
MAINTAINING INTEREST

Play begins with you returning to your university after finally finding the cross or Coronado. It continues the close association with the film throughout but with enough flexibility so as not to be boring and linear. There needs to be a lot of thought given to playing a game such as this, as it isn't something that is going to be finished in a lunch-hour. I should imagine that a game of this size would take someone like me several days to complete, but you may take more or less depending on your experience and enjoyment of this type of game. The diversity keeps the interest alive as you can go flying as you flee the German castle, travel to Berlin to retrieve the Diary and finally discover the final resting place of the Grail.

The Last Crusade works on the tried and tested Lucasfilm interaction technique that has proved so popular in games like Monkey Island and Kings Quest. It works by you specifying an action and then clicking on the object that you want to perform an action on, either in the scene or from the inventory that the character is carrying. The action is then carried out or you are told, in a polite way, that it doesn't do anything. This kind of interaction makes the game more interesting when you play it because you get a nice animated sequence if you are on the right track.



DORA



With this interaction, you actually become much more involved than if you were just to type in commands as has always been the case in the past with adventures. I can hear the cries now, from the diehard text adventurer, of the lack of imagination required from the player, which may be justified, but many of us just like to play games, not sit down and blow our minds on excruciatingly difficult puzzles after a hard days work *(when has a student ever done hard work - Ed!)*.



THE LOOK OF THINGS

The graphics are not the best to ever grace the Atari but can be forgiven due to the fact this is a graphical adventure more about game play and involvement, than pretty pictures. The graphics do, however, hold true to the Lucasfilm unwritten philosophy of applying the most appropriate graphics to the game. Items that can be used are easily identifiable, but not to the extent that you can see what is a useful item and what is scenery. That might seem a little unfair but it is all too easy to confuse the two if not thought about carefully beforehand. The characters are animated well with Indy and the others walking nicley, and apparently talking when they have a message to say. A nice touch that gives the game a little polish.

Sound is minimal with just a bleepy tune knocked out at the beginning during the titles. The titles feature the young Indy fleeing along the top of a train and finally falling through the roof of a carriage. Otherwise there are very, very occasional spot effects so don't buy the game if you are expecting sonix that will blow your socks off! What there is simply highlights the fact that you have done something that is useful (sometimes!)

Movement of your character is through the mouse or the cursor keys. You simply point at the position you want to walk to and Indy or Henry walks there. This is the same with the actions that have to be performed, but his time you sometimes have to give two commands in one such as "Use the mallet on the bell" and then see what happens. Sometimes nothing, sometimes a lot. It all depends on what you have done previously. You can load and save your current position and store it on a separate blank disk. You can store more than one game and so build up a library of important turning points in the game to come back to in the future to try out alternative moves.

NOT PLAY IN A DAY!

You won't be disappointed with the length of time that this game will keep you enthralled. Pencil in several days off to play it to the full. Lastability is a personal thing but even those people who have very little interest in adventures will be interested by the Indiana Jones connection. Probably just about the entire population of England know of Indy because of his, seemingly, universal attraction.

The whole feel of The Last Crusade is one of class, sophistication and quality. This is a game that has had a lot of work put into it. The feel of the game is just right and it combines the ideal balance of atmosphere and cerebral stimulation to keep you interested, injecting an element of humour whilst sticking closely to the film. It is the kind of game that you will be coming back to for more several months from now.

It might be a little while since it first came out but with the current state of the ST games scene, it is a welcome addition. The overall feeling is that you have one hell of a game to get stuck into.

ADIOS!

So, as the sun sets over old England, I pick up my battered Fedora, bullwhip and Magnum and head out in search of the one thing that all men seek, "Power and glory kid, power and glory!!"

INDIANA JONES AND THE LAST CRUSADE (THE ADVENTURE GAME)

Published by Kixx XL

ST and Falcon - Hard drive installable

Price £14.99

Reviewed by Nicholas Bavington

ST File

STZIP

There are several file compression utilities available for the ST but in our opinion the easiest to use is ST ZIP. Here G. Richard Yamagata explains the ins and outs of a program you may well come across on your next public domain disk

THE HISTORY OF COMPRESSION

Compression of programs has long been popular in the world of telecommunications. Although modems have become faster, growing from the days of 300 characters per second (cpi) to 14,400 today, computer programs and files have become larger. Compression of the files to smaller packages, like 116k for the STZIP21.ZIP file that was 261k uncompressed, is needed to keep connect time short and, consequently, long distance telephone charges down and fees for using premium services like Compuserve at a minimum.

In the stone age of ST computing, the first program and file format that was widely used was something called SQUEEZE.PRG. To uncompress a file you used the aptly named UNSQUEEZE.PRG. This was extensively used by the early ST magazines to give their readers more programs than normally allowed on the early 320k single sided disks used in those bygone days of ST computing.

ARC.TTP replaced this system of programs. ARC not only compressed and uncompressed your files, it gave you a full complement of tools and commands which allowed you to compress a group of files together. Whole application packages with resource files, data files and accessory files could be compressed into a single file. An early example of this is the SLM driver ARC file that contained all you needed to set up and configure your system to use the SLM 804 laser printer. This contained the program that went into the AUTO folder, accessory programs and some fonts.

ARC was replaced by LZH.TTP as the method of choice for file compression. LZH not only placed at your disposal a battery of tools for compressing files, it was more efficient in its compression. LZH is now being supplanted by STZIP.TTP for reasons that will become apparent as the features of STZIP are enumerated and explained.

Actually, STZIP is a misnomer. This ZIP program runs on any of the ST computers (TOS 1 to 1.6) and will uncompress the ZIP files compressed with PKZIPv2.04. present on any bulletin board service that supports IBM and PC clones. Since TOS 1.4 supports the IBM 720k format, STZIP is the perfect compression program for you on your ST system if it has IBM emulation capabilities (i.e. Supercharger, PC Ditto etc.).

STZIP will also uncompress files that have been processed by the Unix system's Info-ZIP programs. This gets a little muddy for neophyte users operating in either TOS or UNIX. STZIP commands and string functions are identical to those of PKZIP for MS-DOS systems. UNIX has its own way of doing things and may give some ST users a panic attack.

THE ACID TEST

Table 1 directly compares the compression efficiency of ARC, LZH and STZIP. ZIP v2.2 clearly has the best compression, making the smallest files. The LZH system and ZIP v2.1 are competitive with ZIP v2.2. If you are using a 14,400 baud modem, you will not notice the 0.09% more efficiency of v2.2 versus 2.1. If you are using a 1200 baud modem, this can mean minutes more time on-line for larger files.

The areas where the LZH system lags far behind are in the ease of use and cost. ZIP has an extremely friendly GEM interface and can be operated entirely by using the mouse. The LZH system, supplied as LHARC602.TTP, uses a command

Table 1: *Shown are the sizes of files that have been compressed using ARC, LZH and ZIP. This comparison gives an idea of the efficiency of these compression programs for a picture file (PI3), a program file (PRG) and a text file (TXT). All values are given in bytes. The version number tested is indicated.*

FILE TYPE	UNCOMPRESSED	ARC 5.01	LZH V6.02	ZIP V2.1	ZIP V2.2
DEGAS.PI3	32,066 bytes	7,314	4,964	4,904	4,904
PROGRAM21.PRG	136,333 bytes	109,991	66,162	64,009	63,910
TEXT21.TXT	32,032 bytes	11,152	9,789	9,613	9,578

ST File

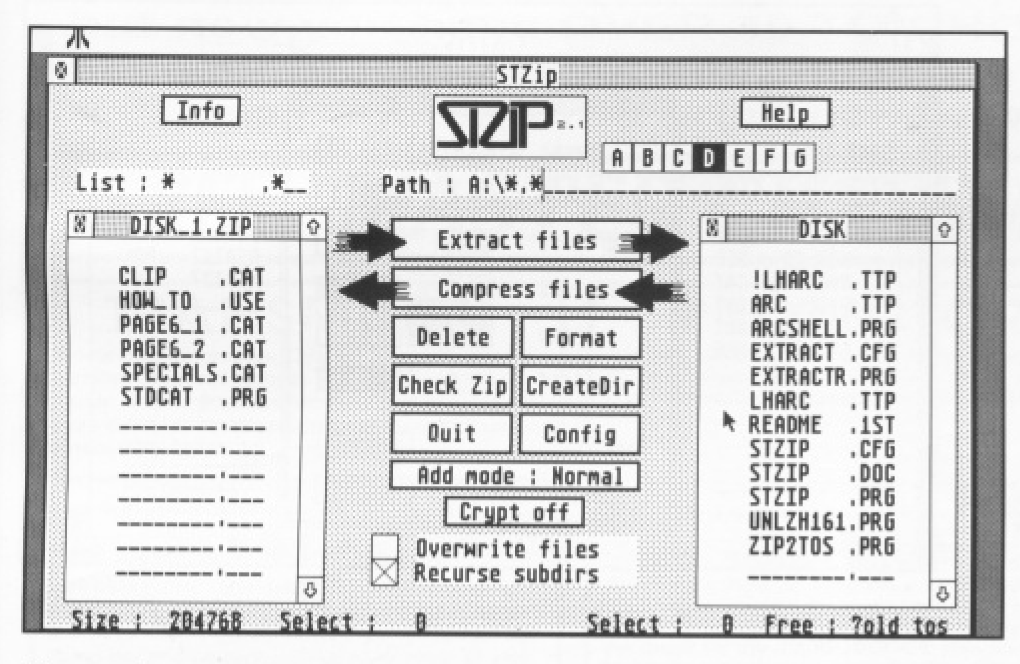


Figure 1. *Shown is the main window menu of STZIP. Except for the displayed version number, the window is the same for v2.1, v2.2 and v2.3. All selections are made by using the mouse. File names can be entered by hand*

line system, where you have to have the commands memorised or written out for reference for typing in. The ARCSHELL program makes LZH and ARC more user friendly, but by the time you have sent in the shareware fees for LHARC and ARCSHELL you have spent over $30. STZIP is postcardware. All the author, Vincent Pomey, asks is that the users of STZIP send a nice postcard to his address in France.

NUTS AND BOLTS

Version 2.1 comes as a self-extracting ZIP file. After double clicking on STZIP_21.TOS, it uncompresses itself and you will soon have six files: README, STZIP.DOC, STZIP.PRG, STZIP.CFG, WHATSNEW and ZIPTOS.PRG. Version 2.2. is supplied as a ZIP file that contains the same files for 2.1 plus a file called ZIPJR.TTP. If you print out the docs, you have 15 pages of reading.

Using the STZIP program could not be easier. It is intuitive and the docs may be superfluous for experienced users of ARCSHELL. Double click the program and it first asks you for the name of the ZIP file you wish to work upon. If you have an improved item selector, such as the one of TOS 1.4 or Universal Item Selector, you can select a pre-existing ZIP file with a click of the mouse. IF you are creating a ZIP file, you type in the file name, i.e. ABC.ZIP. If you are a TOS 1.2 or earlier user with more than one drive, you will have to type in the path file on the directory line. This is no different than for any other file selection.

Once the ZIP file has been designated, you enter into the STZIP program proper. The screen is shown in Figure 1. The ZIP file name that I chose is DISK_1.ZIP and is shown at the top of the left hand file selector menu. I have chosen drive A for the right hand menu. STZIP has an improved file selection interface. You can choose any drive or partition that is active on your system. Since I have a hard drive with partitions C to G, those are shown. Floppy users will be given only two choices, A and B.

To compress a file, just click on the files you want Zipped in the right-hand menu, highlighting them, and click on the Compress files box with the arrows showing file movement from right to left. You can cancel any operation at any time by hitting the [ESC] key. If you want to insert a comment that will flash on the screen whenever the ZIP field is uncompressed, just click on the menu bar containing the file name which, in this case, is DISK_1.ZIP. A window will open that will let you type in your comment. This feature will only function in version 2.1. The same option displays the status of the compression, in terms of the size of the compressed and uncompressed file or folder and the number of files present in the ZIP file for v21. and v2.2.

Extract is the intuitive reverse of Compress. You click on the files you want uncompressed in the left-hand menu, choose the file directory you want these to go to on the right and click the Extract fields box with the arrows going left to right.

If you do not have an empty disk to place the uncompressed files on, you can click on the Format box and a nifty formatter comes up that is user configurable. You can make the disk access fast by skewing the format or you can format for high capacity with up to 83 tracks (if your drive is capable) and 10 sectors per track. You can experiment for the fastest and most efficient format settings for your floppy drives.

If you want the files to go to a particular folder, the CreatDir box allows you to create a folder. If you need to delete a folder or the ZIP is creating a conflicting folder name (you cannot have two folders with the exact same file name), just use the Delete function to delete it. This can also be used to delete files.

What makes STZIP superior to LHARC is the ability to embed comments into the ZIP file and the ability to make the files not only self-extracting but able to extract out to the folders that the person who compressed them wanted them to go to. No more having to to read the docs to ensure that you have the

continued

Figure 2. *Shown is the window accessed by clicking on the left-hand menu bar. In this case, the file name DISK_1.ZIP occupies the menu bar*

proper files in the proper folders to get that uncompiled STOS program to work. An example of this is that the DEFAULT.ZIP file has the folder ST_ZIP_2.1 compressed and will uncompress that folder with all six of the files of 1.2. If you wish to turn off this feature when extracting files, click and x-out the Recurse subdirs box at the bottom of the STZIP window. The extricated files will be written to the selected directory and no folders will be created.

The Check Zip option will got through the extrication algorithm and tell the user if the ZIP file will correctly uncompress to usable files. The Config option allows the user to select the criteria by which the files are ordered in the displays for the ZIP file and the drive or partition. You can select which of the four algorithms available you will use for compression. You can set the program to delete all files as they are added to the ZIP file or query for deletes. Other options are listed, but have little utilitarian use.

The Add mode selection can switch STZIP from compressing to adding all files selected to the ZIP file or to 'freshen' or 'update' them. Freshen adds the file if it has a date newer than the one in the ZIP file. Update will add the file if the file is newer or is not in the ZIP file. The selection date criteria for these two actions is set by the user.

An interesting feature is the ability to encrypt a ZIP file. When the user compresses to a ZIP file, he can designate a password. If the password is not input into the STZIP program when the ZIP file is uncompressed, the extraction is aborted. This is an excellent method of ensuring the privacy of files when using public bulletin board services.

The most useful feature of the STZIP system for the PD uploader is the ability to create self-extracting files. The ZIP2TOS.PRG will ask for the user to select a ZIP file to make into a self-extracting TOS file. This means the end user does not have to have a copy of STZIP to uncompress the files. You just copy the file to an empty disk or partition, double click on it and it extracts out to all the folders and files that were placed into the TOS file by ZIP2TOS.PRG.

Of the two, version 2.1 is my favourite, because of the functional comment option. Version 2.2 has fixes for bugs that are experienced by users of version 2.1. in medium resolution. Version 2.2 also has a feature where you can select individual compressed files in the ZIP file for output to a printer. If you regularly use a monochrome monitor, you will be just as happy using v2.1 instead of v2.2.

All told, STZIP is superior to LHARC and ARC and I recommend using it for all your compression needs, especially if the person you are sending the file to has trouble working ARC.TTP, LHARC.TTP and/or Arcshell.

This article first appeared in the Dec '93/Jan '94 edition of Current Notes, a highly recommended US publication covering the ST and Classic machines. Current Notes is well worth subscribing to and subscription details can be obtained from CN Subscriptions, 122, N. Johnson Road, Sterling, VA 20164, USA.

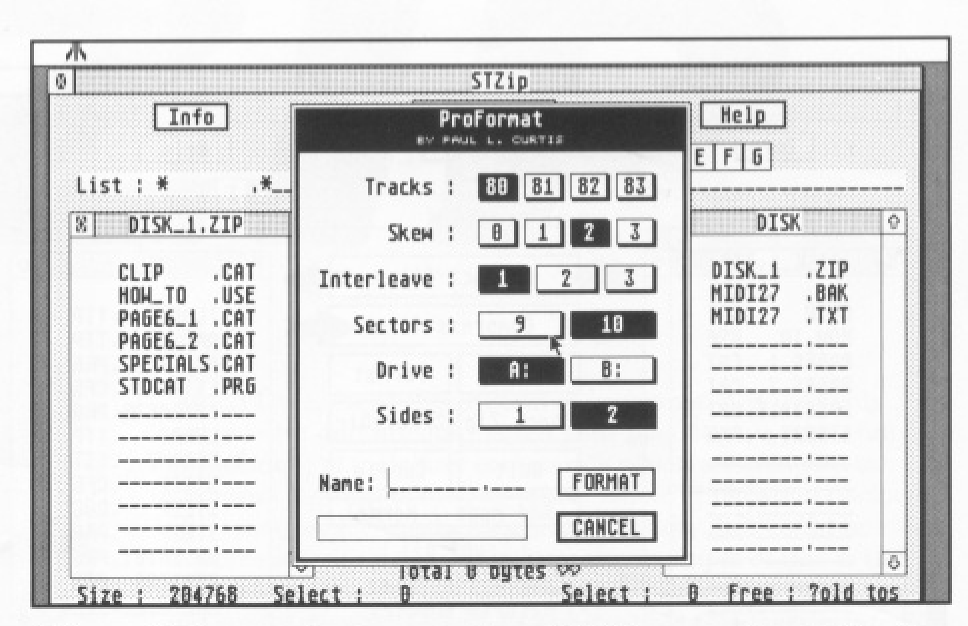


Figure 3. *Shown is the Format option of STZIP, accessed by clicking the Format box*

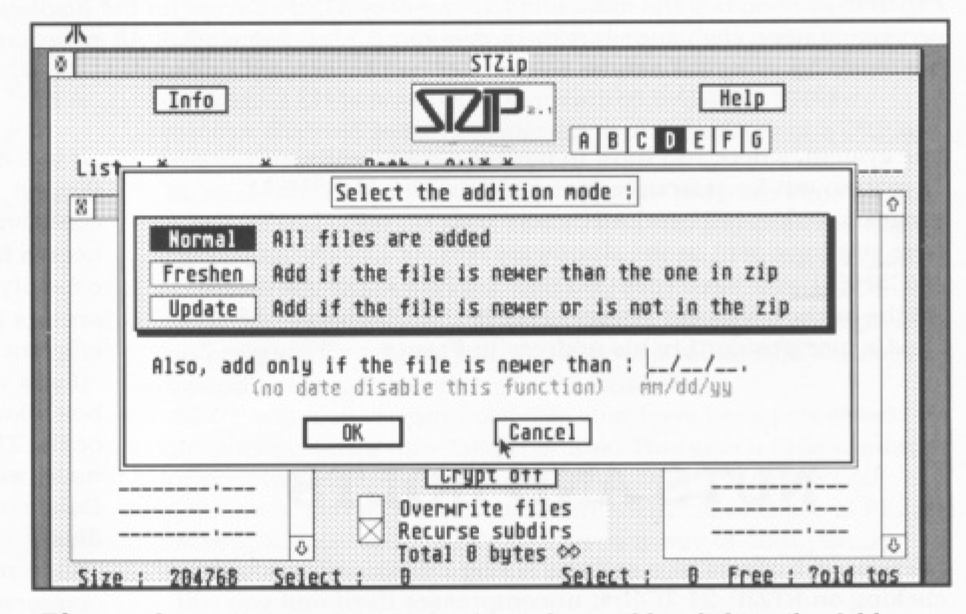


Figure 4. *The addition mode window, obtained by clicking the Add mode window. This option allows quick updating of the files in your ZIP file to the newest version or update*

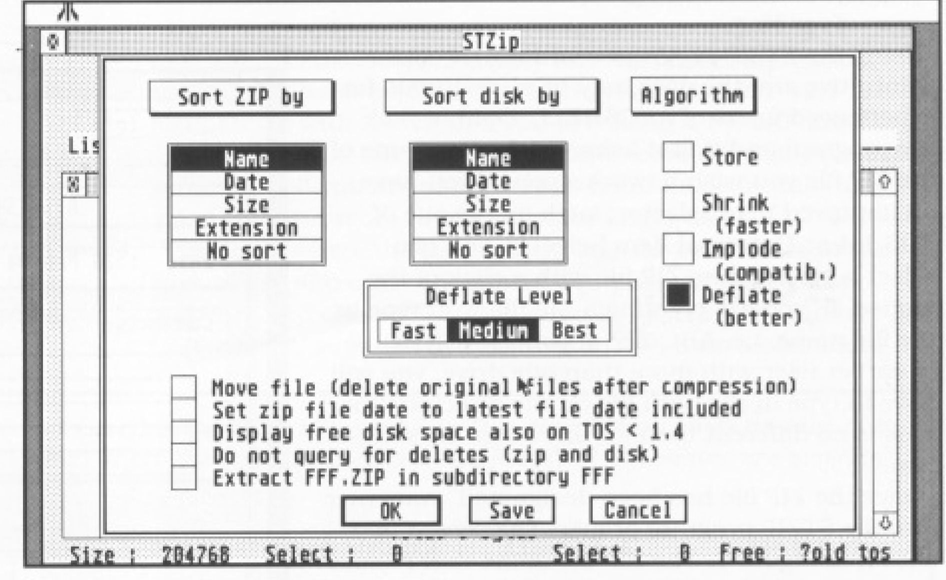


Figure 5. *Shown is the configuration option window of STZIP, accessible by clicking the Config box from the main menu*

STZIP is available from the Page 6 ST Library on Disk #895 - GENERAL UTILITIES 16

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